



DIE KOLNISCHE BERGWERKS GESELLSCHAFT; OR  
COLOGNE MINING COMPANY.

SOCIETE EN COMMANDITE.  
Established in Prussia for working Copper, Lead, Zinc, and other Mines.  
Capital, 800,000 Thlr, or £120,000, in 120,000 Shares of 6 Thlr. 26 8. gr., or £1 each.  
GERANT—William Jesse, Esq., Director of the Nouveau Monde Mining Company.

Sous GERANT—Carl Martin, Notary Royal, Cologne.

PRESIDENT OF THE COUNCIL.

MAJOR THE HON. H. B. DALZELL, 7, Sussex-place, Hyde Park.

COUNCIL.

HERMANN CAMPHAUSEN, Jun. (of the firm of A. and L. Camphausen), Cologne

JULIUS MOLLER, Merchant, Ellerfield.

CARL SCHMIDT, Judge of the Court of Appeal, Cologne

ROBERT JOHN LATTEY, Esq. (of the firm of Lattey Brothers, Calcutta), Erin

H. S. ST. JOHN'S WOOD.

H. H. LINDSAY, Esq., East India Chambers

Capt. J. P. MACDOUGALL, Director of the Church of England Life Assurance Company

ENGINEER—John Arthur Phillips, Esq., F.G.S., 8, Stamford-street, Blackfriars.

BANKERS—Messrs. A. and L. Camphausen, Cologne; Messrs. Supte, Muspratt, Banbury, and Co., 77, Lombard-street.

SOLICITOR—William Loaden, Esq., 28, Bedford-place, Russell-square.

BROKERS—Messrs. Joshua Hutchinson and Son, 20, Lothbury; Messrs. Barnett and Ellis, 11, Bircham-lane, Holborn.

OFFICES—In Cologne: Wollnische, No. 16. In London: 29, Moorgate-street.

This Company is established for the purpose of working and profitably developing the resources of a large mineral district in Rhenish Prussia, under the law of "Commandite," by which the Certificates of Shares are only issued in exchange for full payment; and for the security of the Shareholders, no transfer of the same can take place except by entry in the books of the Company. No Shareholder is required to execute a Deed, or is subject to any call on the Shares, or any liability whatever. The affairs of the Company will be conducted by the Gerant, aided by the advice of the Council, among whom are members of two of the most eminent banking and mercantile firms in the Rhenish provinces.

The proceeds of the Mines will be remitted to London, and the dividends will be paid in London and Cologne.

A contract has been made with the owners of various mines, containing extensive lots of Copper, Lead, Zinc, and other minerals, situated within a radius of from five to thirty miles of Cologne (held in perpetuity under a grant from the King of Prussia, reserving a royalty of only five per cent. on the net annual profits), to purchase all their mining property and rights upon the following terms:—£20,000 cash, and 18,000 Shares on taking possession of the Mines. The remainder of the purchase-money—25,000 Shares—is to be deposited with the bankers of the Company, and will not be delivered to the vendors until a dividend of ten per cent. shall have been paid upon the capital previously subscribed. The Council, after due and careful investigation, assisted by the opinions and advice of their engineers, have every reason to believe that the result will fully justify them in securing the Mines on these terms.

CAPIST JAMES GRIPPE (for many years mineral agent or toller to the late lessors of the minerals of the Duchy of Cornwall), in September, 1852, examined and reported favourably on the whole of the Mines. He says, "I beg to assure you that I have, during my three-week's examination of these Mines, endeavoured conscientiously to fulfil" the trust reposed in me, and if, in some few instances, the Mines described in my Report, do not come up to the full expectation of your hopes, on the other hand, there are many others of equal, if not superior, value to any mines we have in England." Upon the five principal Mines, which the Company will immediately work, called Cecilia, Christiana, Verwirrung, Fahrberg, and Habsbacher Rohe, he remarks:—"These Mines I have carefully examined, and I can confidently assert that I have never seen Mines so capable of producing great results."

Mr. JOHN ARTHUR PHILLIPS, who was deputed by the Council to inspect these Mines in January, 1853, made a detailed report, which may be seen at the office of the Company, and he concludes as follows:—"The roads in the district are, with but few exceptions, exceedingly good, and the Mines situated within short distances from them. The resources of the country will be much increased on the completion of the new Railway from Elberfeld to Marburg, which is already staked out, and passes directly through the mining district. In addition to the mineral wealth of the country, labour is exceedingly cheap, and wood, iron, and coal are to be obtained at reasonable prices. The foregoing Mines will, I believe, prove highly productive when worked by the aid of effective machinery, and I can therefore strongly recommend them to the notice of British capitalists; and I would suggest that 25,000/-, or thereabouts, should be expended in machinery, engines, and other appliances, in order fully to develop the resources of these Mines." The Council have not embodied the Reports of Mr. Phillips and Captain Grippe in the Prospectus, but very copious extracts from them have been printed in a pamphlet, which may be obtained at the offices of the Company. The district in which the Mines are situated may be reached in thirty hours from London. At various establishments near Cologne machinery of every description can be obtained at reasonable prices.

The remainder of the Mines will continue to be worked in the German manner, as at present; but the Company's engineer will be directed to examine and report upon them at intervals, with a view to the gradual introduction of machinery, and a more improved and extended system of working. In the opinion of Mr. Phillips, the ores may be smelted on the spot much cheaper than in England, and it is intended to erect smelting works, and thereby complete the operations of the Company. The small smelting furnaces, and the dwelling-house and offices at present existing, together with about seventy acres of freehold land, are included in the purchase.

Assays of the ores which have been made by Mr. Phillips, by Messrs. Johnson and Matthey, and by Mr. Mitchell, yield from 12 to 32 per cent. of copper, from 45 to 79 per cent. of lead, which also contains from 1 oz. 16 dwt. to 32 oz. 13 dwt. 8 grs. of silver to the ton, and 66 per cent. of zinc.

Zinc, which may be obtained in large quantities in the district in question, will also form a very valuable source of profit; the Vieille Montagne Company, formed for working Calamine ores, in 1837, after paying large dividends, and returning to the Shareholders 82 of their capital on every 40/- Share, had the satisfaction of seeing its 32/- Shares at 400/-.

The Council would have preferred to issue Shares of 5/- each, but the law under which this Company is constituted requiring that the Shares should be paid up in full, they have resolved to issue them of 1/- only; the Council, however, should such a course be desirable, reserve to themselves power to increase the capital of the Company by a further issue of Shares, with the consent of the proprietary, the holders of old shares having the preference in regard to such issue.

Applications for Shares may be made in London to the Brokers, or to the Secretary, at the offices of the Company, 29, Moorgate-street. In Cologne applications will be received by the Sons Gerant, Carl Martin, No. 10, Wollnische.

FORM OF APPLICATION FOR SHARES.

TO THE COUNCIL OF THE COLOGNE MINING COMPANY.  
GENTLEMEN.—I request that you will allot me Shares of 1/- each in the above Company; and I hereby undertake to accept the same, or any less number you may allot me, and to pay the deposit of 1/- per Share.

Dated this day of 1853

Name in full.....  
Residence.....  
Reference.....  
Business or Profession.....  
Signature.....

**THE CHALANCES SILVER MINING COMPANY,** for the Extraction of Native Silver, Silver Lead, Copper, Nickel, and Cobalt. Department d'Isere et Hautes Alpes, France. Concessions in perpetuity. Established (and now in work) under the French law of "Commandite," whereby the liability of each Shareholder is strictly limited to the amount of his Shares. No Deed required to be signed. The Share to be payable to bearer. Application will be made in due course to the French Government for the conversion of the present Company into a "Societe Anonyme."—In 6,000 Shares, of 10/- each, of which 2,000 only remain to be subscribed for, the rest having been already appropriated. 5/- to be paid on allotment, and 5/- on the 1st of June next.

CONSEIL DE SURVEILLANCE.

THE RIGHT HONOURABLE LORD KEANE, Stowthorpe-park, Cambridge. M. LE VICOMTE LOUIS ETIENNE FRANCOIS HERICAUT DE THUREY, Membre de l'Academie des Sciences, Inspecteur General Honoraire des Mines. Officier de la Legion d'Honneur, 71, Rue St. Dominique, Paris.

M. SIMON GASPARD JANGOT, Proprietaire, Rentier, Chateau de Chesse-les-Mines, Departement du Rhone.

CAPTAIN GEORGE KEANE, Montpelier-road, Brighton.

J. PARTRIDGE THARP, Esq., Regent-street, London.

H. HARINGTON THOMAS, Esq., late Bengal Civil Service, 11, Old Steyne, Brighton.

HENRY VANSITTART, Esq., I.L.E.C.S., Forest Hill, Sydenham.

GERANTS.—Mons. Pierre Alexis Lefebvre, Allemont, Greenoble; Mr. Henry C. Newton, London.

BANKERS.—Messrs. Ch. Noel, H. Price, and Co., 9, Faubourg Poissonniere, Paris; Messrs. Barclay, Bevan, and Co., 24, Lombard-street, London.

NOBLES.—M. Guerin, 23, Boulevard Bonne Nouvelle, Paris.

SOLICITORS.—M. H. Peronne, Avenue, 35, Rue de Bourdon, Villeneuve, Paris; Messrs. Howard and Dallman, 141, Fenchurch-street, London.

OFFICES.—Rue Louis-le-Grand, Paris; 3, Lothbury, London.

The Mines of Chalances D'Allement are situated in the Department d'Isere, about twenty-five miles from Grenoble, on the high road from that city to Italy, via Briancon. They contain in great abundance native silver, nickel, and cobalt ores. Their mineralogical and geological character is of the highest order, and their celebrity is historical; and it is uncontestedly proved, by a minute minute and searching investigation, that nothing but a judicious application of practical science, engineering skill, and adequate capital is wanting to ensure, within a very brief period, the most lucrative results.

The capital has been carefully estimated at an amount which will provide for every contingency, and as it will not be expended in testing the problematical riches of a new mine, but in adequately developing the acknowledged resources of a property whose productiveness has been placed beyond all doubt, the Directors confidently express their conviction that they will be enabled to declare a dividend within a very limited period.

Originally discovered in 1768 by some peasants, these Mines were subsequently worked by the French Government, under the direction of Mr. Binelli, a Piedmontese engineer, who in the first year of his operations extracted, without art or method, 6000 marks of silver, of the value of £30,000 francs (12,000/-). They were afterwards granted by letters patent of Louis XVI., to his brother Le Comte de Provence (Louis XVIII.), for whom they were successfully worked till the Revolution under the management of Mr. Schreiber, a Saxon engineer, by whom silver of the value of nearly 12,000,000/- was extracted. The average yield of the ore smelted was nearly 50 per cent. On the outbreak of the Revolution, the Republican Government refused the requisite funds for working the Mines, and they were consequently abandoned. Ultimately the concessions passed into the hands of parties who not only wasted mining still and capital, but disagreed amongst themselves, and became involved in litigation.

In one of the levels a block of pure native silver, weighing 36,000 francs (1440/-), was found, which was preserved as a curiosity in the cabinet of the Comte de Provence until the Revolution of 1793, when it shared the fate of the rest of the royal treasures.

Hitherto the Mines have been worked for silver only, and the operations have been exclusively confined to the surface veins (nearly 3,000 feet above the level of the sea), which have never been proved in depth. Cobalt, however, exists in large quantities, combined with antimony and arsenic. Some of the refuse, or slakes, scattered about the works as valuations, were recently sold to some Germans for the Cobalt, and realized 3,000/- Nickel, also, is abundant, and the title to an extensive deposit of copper, discovered in January last, in the immediate vicinity of Allement, has likewise been secured. Assays made on the spot by Captain J. E. Pitt, of Perran St. George Mine, who inspected the Mines in May last, show from 15 to 25 per cent. of Nickel and Cobalt, whilst as much as from 35 to 40 per cent. of Nickel was realized by him from

specimens of Kupfer-Nickel. Some specimens have yielded upwards of 50 per cent. of Nickel and 20 per cent. of silver. The latter metal evidently pervades all the products of the Mine, for out of thirteen specimens brought over by Captain Webb—a practical Cornish engineer, who also inspected the Mines in May last—and assayed for silver by Messrs. Johnson and Matthey, of London, that metal was discovered in every one, in proportions varying up to 261 ounces per ton. Ten of the specimens taken indiscriminately in January last, by Mr. White, from the old workings at the Mines, and assayed by Messrs. Longmard and Son (9th February, 1853), show silver in proportions varying from 3 oz. 11 dwt. 20 grs., to 21 oz. 6 dwt. 7 grs. to the ton, with considerable quantities of Nickel and Cobalt.

The Mine of Grand Clos, of which this Company likewise holds the concession in perpetuity, is situated about twenty miles from Allement, in the department des Hautes Alpes, and contains lead, in prolific abundance, with a large percentage of silver. An assay by Messrs. Johnson and Matthey (4th February, 1853), gives 15 cwt. 0 qrs. 21 lbs. of lead, and 11 oz. 1 dwt. of fine silver to the ton, while as much as 32 ounces of silver to the ton have been found in other specimens. A neighbouring lead mine, whose entire capital is less than 4,000/-, has, during the past year, realized a net profit of 2,500/-

Mr. White, Mining Inspector, who is now organizing the works at the Mines, was sent out by the Directors in December last. His elaborate report, together with those of Messrs. Longmard and Son (9th February, 1853), show silver in proportions varying from 3 oz. 11 dwt. 20 grs., to 21 oz. 6 dwt. 7 grs. to the ton, with considerable quantities of Nickel and Cobalt.

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The buildings, machinery, and plant, at both Mines are in good order, those at Grand Clos having been recently erected; labour is abundant, wages low, water-power inexhaustible, roads good, and fuel immediately available. No drainage is required, nor any engine for raising water.

The Company is in complete possession of the Mines, plant, and material. One-fourth of the purchase-money has been already paid, the remaining three-fourths are to be paid in shares, which are not to be issued for a considerable period.

The entire direction of the Mines will be entrusted to experienced English engineers and miners.

Applications for Prospects and Shares to be made to the Brokers of the Company, Messrs. Taunton and Bash, No. 26, Austinfriars; to the Solicitors, Messrs. Howard and Dallman, 141, Fenchurch-street; or to the Conseil de Surveillance, at the offices, No. 3, Lothbury.

FORM OF APPLICATION FOR SHARES.

TO THE CONSEIL DE SURVEILLANCE OF THE CHALANCES SILVER MINING COMPANY.

I request you will allot me Shares of 1/- each in the above Company, and I agree to accept such Shares, or any less number, that may be allotted to me, and to pay the deposit of Five Pounds per Share on the same when required.

Name in full.....

Residence.....

Reference .....

Date .....

United States of America.

United Kingdom.

Other Countries.....

By order, W. LLOYD JONES, Secretary.

March 9, 1853.

L'AIGLE D'OR MINING COMPANY OF VIRGINIA.

REPORT OF THE COUNCIL TO THE SHAREHOLDERS.

The Council of Superintendence in London, in the exercise of the discretion confided to them in the management of the affairs of the Company, deemed it prudent, before commencing extensive operations upon the Mine, to obtain a careful survey of that part of the Company's property by a scientific geologist.

The Committee has secured the eminent services of Dr. Archibald Colquhoun, an officer who has received the highest encomiums for his energy, zeal, and gallantry during the Jellalabad campaign under General Nott. He leads to this location a party of miners and artificers, who have been selected with care expressly for this expedition, and they have sailed on the 8th inst., per Antelope steamer, from Liverpool, with a supply of implements, stores, &c.

This party will be placed under the orders of the Chief Commissioner, E. B. Davis, Esq., to whom instructions have been already forwarded by the Overland Mail, with authority to arrange with the agents for the property, for receiving immediate possession with all benefit of existing leases. It is expected that the crushing mills already sent out will here be brought into very profitable employment, much of the gold being found in the hard granite boulders which abound in this district.

The Committee are in daily expectation of receiving by the Sydney and Great Britain steamers, advice of the results of the operations upon the Louisa Creek, already advertized to in their last report, dated January 19th.

H. A. DRAKE, Secretary.

March 9, 1853.

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To ensure the appointment of a gentleman duly qualified to perform this responsible duty, and to guard the interests of the Company in other respects, the Council dispatched a special agent of their own to New York, with instructions to select some person of undoubted experience and character. Acting upon these instructions, he applied to Colonel Max Joseph Gratzner, a practical mining engineer and geologist of the highest standing (who had been appointed by the Government of the United States to make geological researches for them in California, and who is still in the service of that Government), and Colonel Gratzner consented to undertake the duties. The Colonel left Washington on the 14th January, 1853, and reached the Company's property on the 18th, remaining there until the 29th, during all which time he was occupied in the necessary examination of the mines. He confirms, in all particular, the statements of the vendors as to the facilities for transit from the property. The road to Columbia runs through the middle of it: the James River and the Kanawha Canal are within ten miles, and the Louisa Court House Station of the Central Railroad of Virginia is within fifteen miles.

The property consists of two estates, now united, known as the Hodges and Eades estates, containing together 430 acres. With reference to the general surface aspect of the surrounding country, Col. Gratzner remarks:

"In a geological point of view this section of the country is very promising for gold-mining purposes, and has a striking resemblance to the California gold region. The undulating land is covered with many parallel quartz veins, the outcrops of which yield on a small outcrop, certain and most satisfactory results. The veins are generally accompanied, on the laying and hanging sides, with a decomposed mica slate, which is even richer in the precious metals than the quartz itself. I ascertained that, in all cases, where not only the gold-washings, but the mainwork, has been done with a proper management, great results have been realized."

With especial reference to the Company's property, Col. Gratzner reports that there are three mineral sections, containing several distinct veins, running through the property. He describes, with great minuteness, the nature, dip, and inclination of these veins, and the works that are upon them, and sends specimens from all. But as it is quite evident, from his Report, and from the assay made under the direction of the Council in London, that the operations of the Company will— for many years at least—and their most profitable results in the principal vein, they deem it best to avoid washings proximity by describing that only, merely remarking that the indications and assays of other veins are quite satisfactory, and show returns superior to many established and productive mines, although yielding in importance to the principal vein, which has been more fully developed."

This principal vein (called the Hodges vein) is on the



## Original Correspondence.

## A NEW AND "MORE EFFICIENT" ACT OF PARLIAMENT FOR THE INSPECTION OF COAL MINES.

SIR.—The announcement, by Lord Palmerston, that in the course of the present session of Parliament it was the intention of her Majesty's Government to submit to the House of Commons a measure which would render the inspection of mines more efficient, has excited great interest throughout the mining districts, and has given considerable, though by no means unlimited, satisfaction. Bearing in mind the ministerial promises of 1850, and the miserable milk-and-water measure by which it was attempted to beguile the public into a belief that these promises had been fully redeemed, and having witnessed how this meagre concession to the just demands of common humanity has been circumscribed in its administration within the narrowest possible limits, it is not to be wondered at if some feeling of distrust be mingled with the approbation with which such an announcement would otherwise have been received. In an able leading article which appeared in your Journal of the 26th Feb., you rely with great confidence on the personal character of the present Secretary of State, which you seem to think is a sufficient guarantee for the efficiency of any measure he may propose.

Without throwing the faintest shade of doubt over the cheering anticipations you entertain, or for one moment questioning either the ability of the noble Secretary to originate, or his power to carry into effect, a really good and thoroughly practical improvement of the law, it ought not to be forgotten that these measures are not the spontaneous efforts of statesmen, but the result of the earnest and persevering labours of those who for years have endeavoured to direct public attention to the subject, and diffuse such information as to render the continued indifference of the Ministers of the Crown to the existing evils inconsistent with the permanency of their own exalted position in the country. Among the conductors of the press none have been so prominent or more fearless in advocating the rights of the neglected miner to legislative protection than you have been, or have more freely granted the use of their columns to numerous correspondents for a full and free discussion of the subject; and the prospect there now is of your labours being at least partially crowned with success cannot fail of being highly pleasing to you; whilst your services in the cause of humanity must ever be gratefully appreciated by the class of men whose welfare you have so materially and efficiently promoted.

Seeing, therefore, that this movement did not originate, and has not been sustained, in the Cabinet or in Parliament, but that it has resulted from the power of the press in forming and directing public opinion, it is essentially necessary that the vigilant and controlling influence of this moral force should be maintained, so that any proposed enactment may be thoroughly scrutinised, and such modifications suggested as may be required to ensure its efficiency. In a matter of such great importance, both to the masters and the men, it is but reasonable that both parties should be heard, and the Secretary of State will most probably receive numerous deputations from the owners of collieries, to represent to him their views and opinions upon the proposed measure. It behoves the miners to be on the alert, and to make such arrangements as will enable them also to send deputations to the Minister, so that their interests may be clearly understood and effectually protected. Not that in this subject the two parties are necessarily antagonistic, or that a good Inspection Act would ultimately injure either the one or the other, but it is possible that causeless alarm, desires for unjust exemption from wholesome restrictions, and other groundless objections, might induce plausible representations, which, if uncontested, would seriously militate against the integrity of the measure.

The present Act was not introduced into the House of Commons until the 22d July, and in consequence of the near approach of the end of the session was necessarily hurried through Parliament so quickly as to preclude the expression of public opinion upon its merits, which might possibly have been more appreciable had there been less precipitancy in its enactment. It is to be hoped that there will be no cause for a similar complaint in passing through Parliament the proposed improved Act for the Inspection of Coal Mines.—J. RICHARDSON, C.E.; Neath, March 7.

## ON MINING LAWS.

SIR.—My views on this subject having met with the approval of some of your more experienced correspondents, I beg to say it will afford me much pleasure to co-operate with them in any attempt to frame a code at once simple and efficacious, and which shall be applicable to all adventures in mining and quarrying, in all parts of the United Kingdom.

The right to carry on mining operations upon the Cost-book System out of the jurisdiction of the Stannary Courts has been much questioned, but I have never entertained any doubt as to the intention of the Legislature when the 7th and 8th Vic., cap. 110, was passed: clause 63 so distinctly states "That nothing in this Act contained shall extend, or be construed to extend, to any partnership for the working of any mines, minerals, and quarries, of what nature soever, on the principle commonly called the Cost-book Principle." If it had been intended to limit this power to a particular district it would have been clearly expressed, and I have, therefore, always given those who framed the Act full credit for a desire to encourage the enterprising spirit of all who seek to develop the hidden wealth of the nation. I am the more confirmed in this opinion by the wording of the 2d clause in the 11th and 12th Vic., cap. 45, of the Joint-Stock Companies' Winding-up Act. It is to the effect "That all associations or companies formed for the purposes of working mines or minerals shall be liable to the operation of this Act; provided, nevertheless, that nothing herein contained shall affect the jurisdiction of the Court of Stannaries in Cornwall." This, I consider, fully recognises the existence of companies upon the Cost-book Principle out of the jurisdiction referred to, by providing "relief to the embarrassed." The attention of Members of Parliament for the mining districts should be called to the wants of their constituents and the public in general, and I believe no difficulty would be experienced in obtaining an Act expressly directed to amend the present unsatisfactory state of the law, and to afford protection from fraudulent schemes and false "reports." With respect to the latter, I would suggest that no report should be published until the writer had "declared" it to be the whole truth, and nothing but the truth, to the best of his information and belief. I will conclude by showing the necessity of some such provision. Having recently occasion for a survey and report upon some mineral property, I applied to a person more conversant with these matters than myself for the name of a good man in the locality. He enquired my object, as the report might be framed to meet my wishes, saying that it was usual, and that it was quite competent for any one to speak of all the favourable indications, but pass over objectionable features, and that such a report would be the truth, but not the whole truth, the latter seldom being required in mining matters. I regret to say, I have found this course but too frequently adopted.—R. P. H.: London, March 8.

## IMPROVEMENTS IN RAILWAY CONSTRUCTION.

SIR.—The public journals of last week contain melancholy accounts of disastrous railway accidents. That such should occur is no matter of surprise, and that they are not more frequent speaks well for the system and management under which our iron roads are constructed. That improvements may be made in various departments tending to the security of life and property on railways, will not be doubted, and in suggesting the following, my aim is more to bring the intelligence and attention of railway companies and engineers to bear on the subject, than to endeavour, or wish, to introduce novel experiments, and excite useless controversy. When an accident occurs, the exertions of those uninjured is to clear themselves of the wreck, to assist their fellow-passengers, and to give notice to other trains; these are great simple matters, dictated by common prudence and humanity, but are too often difficult to accomplish. The greatest difficulty, however, is that of giving notice to approaching trains, particularly in the night. To obviate this, and to render aid and assistance to the uninjured, I propose to have intermediate stations erected at every four miles, or other suitable distances, as may be considered best; these to be attended day and night, and to be made to communicate with the main ones by telegraph. On the telegraph posts I propose to attach a wire-rod, communicating with the subordinate stations only, and in every post, or every second one, to have a lever handle attached to the wire, so that any passenger may immediately signalise the stations between which the accident happens that assistance is required. In the small stations there should be kept tourniquets, bandages, and other means which may be considered advisable to have at hand, for the purpose of affording temporary relief.



It is highly probable that railways will eventually be lighted with gas in this case there will be no difficulty in making signals of danger, either by day or night, as the plan I propose is to release a vase at every post, so as to show the guards and engineers that an accident has occurred. These vases may be seen at night, except in occasional very dark and foggy weather. The plan I have above suggested indicates an outlay for the erection of stations, and modes of communication, as also for the maintenance of proper officers and attendance. It is not to be expected that railway companies can undertake this without an equivalent in the shape of advanced fares; and I feel assured that all persons who may have occasion to travel on the rails will not object to pay a small additional fare, when they see it returned to them again in increased security, and in providing assistance in case of need. However anxious and desirous the managers of railways may be to ensure safety to those entrusting themselves to their charge, it is, of course, quite impossible to adopt any system of locomotion that can be exempt from accident; it is, however, possible to adopt means which will reduce the liability to accident, and to obtain more ready and immediate relief than can be had under existing arrangements. If anything I have suggested contributes to this end, I shall derive great pleasure in having brought it under notice.—M. E.: March 9.

## THE COPPER TRADE.

SIR.—I send you a corrected statement of the average produces and standards of the ores sold in Cornwall, in the past month of February:

Feb. 3.—Quoted, average produce, 6%; average standard, 1017. 18s.; quantity of ore, 1355 tons; fine copper, 294 tons 8 cwt.; money, 30,832. 10s.

They should stand thus—Average produce, 7%; average standard, 1197. 12s.; quantity of ore, 4353 tons; fine copper, 394 tons; money, 30,832. 10s.

Feb. 10.—Quoted, Average produce, 6%; average standard, 1377. 12s.; quantity of ore, 3495 tons; fine copper, 233 tons 5 cwt.; money, 27,205. 12s.

Should be:—Average produce, 7%; average standard, 1187. 10s.; quantity of ore, 3495 tons; fine copper, 263 tons 4 cwt.; money, 27,205. 12s.

Feb. 17.—Quoted, Average produce, 7%; average standard, 1557. 1s.; quantity of ore, 4627 tons; fine copper, 331 tons 6 cwt.; money, 38,643. 17s.

Should be:—Average produce, 8%; average standard, 1177. 10s.; quantity of ore, 4627 tons; fine copper, 380 tons 19 cwt.; money, 38,643. 17s.

Feb. 21.—Quoted, average produce, 5%; average standard, 1853. 12s.; quantity of ore, 2936 tons; fine copper, 166 tons 16 cwt.; money, 19,536.

Should be:—Average produce, 6%; average standard, 1227.; quantity of ore, 2936 tons; fine copper, 191 tons 4 cwt.; money, 19,536.

The sale on the 17th February was that of the Devon Great Consols. It will be seen that these ores now approximate more nearly in price to average ores. That which it was deemed expedient to give for the ores of this mine it is as difficult as delicate to characterize.—*Gray's Inn-square, March 3.*

THOMAS L. HILL.

## SPAIN AND ITS MINERAL RESOURCES.

SIR.—It is a matter of surprise, that whilst the remotest countries on earth attract our mining capitalists, Spain, abounding in silver, situate within three days' steam navigation of our own ports and its mining operations, protected by special and well-observed laws, should be in this particular a terra incognita to Englishmen. Reverting to the earliest period, we find that this country was the Mexico of the ancients. Pliny, Dioclesius, Tacitus, Strabo, and others, describe Iberia and Cantabria as the main sources of the gold and silver which then flowed into Rome. The former estimates the annual amount of gold at 60,000 lbs. weight, greater than from any other country; and further states, that when the Praetor Marcus Hebrus entered Rome in triumph from his Spanish conquests, he brought with him 133,170 lbs. of unstamped silver, and of stamped 17,026 lbs. In short, ancient historians and geographers concur in affirming that the mineral riches of the Peninsula were inexhaustible; adding, that with one single mine in Carthagena the Roman republic sustained the longest and most costly of its Punic wars. At a later period, the Moors, with more skill and science than their predecessors, prosecuted what had begun; and the vestiges of the works of both people, unaided as they were by modern discoveries, are, from their extent, to this day the wonder and admiration of all who behold them. If it be asked why Spain has retrograded from her mineral pre-eminence, the solution is to be found in the discovery of the Americas, and in that passion for adventure and proselytism which distinguished its early conquerors. The prohibition to work the mines in Spain was almost simultaneous with their increased development in the New World, until every Spaniard was taught to believe that success and emigration were synonymous terms—an illusion only dispelled by the loss of Mexico, Peru, and Chili. A compensation was sought in the mineral wealth of the Peninsula; but science was wanting: capital was both limited and, Spanish like, withheld from circulation, in so much that, up to this hour, the greater portion of its mineral lodes are unknown, except where tradition has marked their site. Nevertheless, some progress has been made, and the best iron ore of Biscay, the calamine of Alcaraz, the immense returns of quicksilver from Almaden, the coppers of Rio Tinto, Arragon, and St. Grono, and the lead of Sierra de Gudon, with others, may be cited as adventures which have led the way to still more important enterprises. Stimulated by success in these, in 1839 the rich silver mines of Sierra Almagrera were discovered, and have since yielded immense sums to their owners. At a still later period, or about the year 1845, the silver district of Huelva, in the province of Guadalajara, which now gives employment to a very costly and extensive desolating establishment, founded by English capitalists. Four contiguous veins in one lode already in produce sustain this establishment, and their importance will be estimated from their shares varying from 6000., 11000., 13000., to 21000., cash, 100 shares in each enterprise; nor do these sums approach the true value, since a late survey has clearly established the fact of 1,470,000 ozs. of silver being in sight of medium value, apart from eventualities, and from the continuance of the yield a greater sum may be anticipated. But it is not necessary to particularise, when there is scarcely a province throughout that remarkable country which does not present indications of equal wealth in silver, together with unquestionable richness in the base metals. Such a supply so near home for smelting establishments in England, in which Spain is notoriously deficient, is surely an object worthy of attention: whilst the high prices of copper and lead, the cheapness of labour, the encouragement and protection afforded by the mining laws, and its proximity to England, are not less worthy the consideration of mining adventurers. Wealth is embarked in speculations at the antipodes; on the Pacific, enterprise is now rife with us; why do we reject it at our very doors?—St. Jago: Madrid, Feb. 26.

## THE ST. JOHN DEL REY MINING COMPANY.

SIR.—I am glad to find the above company among the list of those which have adopted the new steam-stamps, introduced by Mr. Isham Baggs, and described in your columns. From the enormous quantity of rock to be pulverised, and the great amount of manual labour at present expended in preparing it for the ordinary stamp, there cannot be a doubt but that a very important saving will be annually effected by the judicious adoption of these machines. My principal object at present in writing is to call attention to a new system of amalgamation, announced in your Journal of last week. It is an invention patented by the same gentleman; and though I cannot personally speak of its merits, yet, if only a part of what I have heard be true, it is the duty, as well as the interest, of the directors to give it a fair and immediate trial. I am the more inclined to press the matter upon their attention, seeing that three different gold companies have already determined to adopt it, as appears from the advertisement. I can tell that the saving in time and mercury is effected by the use of amalgamated sieves, presenting a continuous and enormous surface; but I am glad to perceive an announcement in your paper that the full details and description are about to be published therein almost immediately. I shall anxiously await their appearance, as it seems to me an invention that is likely to effect a complete revolution in the present method of extracting gold and silver.

A SHAREHOLDER.

## BRITANNIA GOLD AND COPPER MINING COMPANY.

SIR.—Two features in the report of this company's meeting, in your last Journal, were inadvertently transposed, which introduces a mistake into my statement, and if you will correct it you will oblige. The report in your paper of the 5th inst. states that 6 tons of auriferous ore were placed in the hands of assayers, and that the samples were not considered satisfactory. The true meaning intended is, that various samples of single pieces of ore having been assayed, and found to contain very little gold in some instances, and a large proportion in others, the committee caused 6 tons of auriferous ore to be brought up to London for assay. This bulk of ore was composed of nine different parcels, taken from five different localities: it was not prepared, further than by throwing aside the surface dirt, or roughly washing off the clay. Part of the entire bulk was then mixed together, to make one parcel, and also each of the nine parcels was ground up, so as to give the result of analysis from each. The mean average of all the assays (four gentlemen having made them) from the 8th was 8 dwt. 1 gr. of pure gold from the ton of ore, and the mean results of the assays of all the parcels made by one of the assayers was nearly 12 dwt. of pure gold to a ton of ore. These samples were, I believe, considered satisfactory by the committee, inasmuch as they approach more nearly to the average yield of a large bulk than any preceding assays.

I observe also that the report is worsed as though I had led the proprietors to expect that only one quarter will elapse before they will have several hundred tons of ore reduced; but the fact was, I distinctly stated that I thought four months was the shortest time in which we could put up the works necessary for that purpose.

*Great George-street, Westminster, March 8.*

W. S. MOORSON.

## THE BRITANNIA GOLD AND COPPER MINING COMPANY.

SIR.—As in your report of the company's meeting, last week, an inaccuracy occurred in my speech, I beg you will do me the justice to insert a correct version of what I stated. It was, "That I could only characterise the results which had been obtained by the Britannia during the past three months, in their search for copper, as ridiculous, and I bailed with very great satisfaction the proposition and plans of the company's engineer (Capt. Moonson), for an immediate and energetic course of working for gold, believing that thereby the shareholders would realise a much more speedily return for the investment of their capital." I beg to refer you, Sir, to the report of the captain of the mine, in which he states that 3 ft. 7 in. had been sunk of the engine-shaft during the past three months; and, in conclusion, would ask you, or any of your readers, practically acquainted with such matters, whether I was very far wrong in my opinion.—R. GOETZ: Warwick-street, Charing-cross, March 7.

HARMONY AND MONTAGUE, AND GREAT TOLGUS MINES.

SIR.—I was pleased to read in your Journal of Saturday last that the Messrs. Taylor were about to work the Chacewater run of mines. I would wish, through the medium of your Journal, to direct the attention of capitalists to the adjoining mines of Harmony and Montague, and Great Tolgus. The two former of these mines have never been seen below the 90, and may be called in the present day shallow mines. Montague, when she was first worked, produced some of the richest ore ever raised in Cornwall, and when she stopped, in consequence of the influx of water from Great Tolgus, was said to be looking very well in the 90. In Harmony there is a very large tin lode, which would, no doubt, pay well at present prices. Under such circumstances, with the improved system of mining, together with the high prices of tin and copper, and the immediate resumption of the Chacewater sets, there could not be many better speculations than to set these mines again to work.

*London, March 8.*

AN OLD CORRESPONDENT.

## ABERLEFENY QUARRIES, NORTH WALES.

SIR.—On Friday last, at No. 2. Moelgreenish side, we had a large piece of slate rock solid down, of the following dimensions:

17 feet long  
10 feet wide  
9 feet 10 inches thick

About this block will then make of slabs one inch thick, 1600 yards; or 1½ inch thick, 1576 yards; or 1½ inch thick, 1200 yards. It may be interesting to many of your readers, and particulary to those interested, to read this in your Journal.

March 7.

ROBERT HUGHES, Manager.

## (ADVERTISEMENT.)

## WHEAL PROCKTER.

The committee deem it important to submit the following letter from a former agent of their mine to public notice, as it contains information of a most gratifying and satisfactory nature:

SIR.—I would not have trespassed upon your time, but business having called me in the neighbourhood of St. Kew last week, I paid a visit to Wheal Prockter, of which I was for nearly two years the agent; and as I have ever been anxious to see this mine properly developed, believing as I do that it would ultimately be a lasting and dividend-paying concern, I send you the results of my experience. I was indeed rejoiced to find it had fallen into the hands of so spirited and respectable a company; and if any information I can furnish respecting the numerous ledges discovered in this sett should by any means render you a service, I shall be more than thankful that I have thus presumed to address you.

You will find on the western side of the valley seen nearly parallel ledges opened upon and taking their direction from 5° to 20° east of north, underlaying east from 2 to 2 ft. in a fathom. Two of these ledges are near to each other, and just under the floors at the tail of the Marborough adit, so that little has been seen of them; but in the orchard, or eastern side of the stream, we raised stones of very rich silver-lead on the back of one of them. About 15 fms. further west in the above adit we intersected another silver-lead ledge about 18 in. wide, perfectly solid, and from which we raised a quantity of ore; this ledge, like the rest, could not be seen deeper than the adit (about 2 fms.) for the want of machinery: 10 fms. further west, in the same adit, we creased a second ledge, which produced some good stones of ore, composed of lead, muriatic, and pyrite; this ledge was not well defined by walls &c., as the last referred to, about 30 fms. still further west, in the lane we sunk a few feet on another ledge, and which I found is still open; this ledge is 7 feet wide, and produced very fine gossan, but we could not descend for want of space. Nearly on the top of the hill, and about 100 fms. west of the last-mentioned ledge, we sunk a shaft about 6 fms. deep at the intersection of two ledges, and drove north 8 or 9 fms., and obtained from 20 to 30 tons of antimony; and I have now a letter in my possession from the purchaser, wherein he states the produce to be 2½ per cent over the Boosey minimum. On the eastern side of the valley we discovered four other ledges, and traced them by opening upon them at various places for half a mile in length. One of these ledges is a continuation of Wheal Sarah ledge, and we found it to produce some very fine gossan, which, upon assay, proved to be rich for silver. The other ledges on this side of the valley are further to hill, varying from 7 to 3 ft. wide, producing large stones of antimony, from 200 to 500 lbs. weight, on the back; but I have no doubt the whole of these ledges will be found to contain lead in depth. These ledges on the east side of the valley, with one exception, underlay west, and are running from 5° to 15° west of north, and will form a junction in the northern part of the sett, and also in the vale, at from 60 to 100 fms. deep, and I think you may fairly calculate, on reaching this point, to find a large supply of valuable ore. In conclusion, I would observe that, when your powerful engine goes to work, your efforts will then be crowned with triumphant success, and Wheal Prockter will take the proud position of being one of the best lead mines in Cornwall.—*Hoyle, March 7.*

CHARLES WILLIAMS.

## TREBURGET UNITED MINES.

SIR.—I have been requested, by many shareholders in this undertaking, again to report progress, and I feel great pleasure in responding to their wishes; and I avail myself of your Journal, not only because it is the readiest and most efficient way of communicating with the shareholders of Treburget United in particular, but because the district in which our mine is situated is just now engaging much attention, and consequently, possesses general interest. If your correspondent, Mr. N. Ennor, who last week contributed that admirable letter, "Mining in the West," would give us its counterpart, "Mining in the East," it would do good service, and be read with interest.

We have now, connected with the Treburget United Mines, about 120 persons as shareholders, and these will be glad to hear that our progress towards development, from the time we commenced operations in June last to the present, has been highly satisfactory, and recent intelligence confirms, in almost every particular, the opinions expressed in the prospectus on first introducing the mine. All the principal ledges have been sufficiently proved upon to warrant the erection of our steam-engine; and no efforts have been spared to conduct this important work with judgment and economy; it has also been our happiness to have maintained the most friendly relations with all the neighbouring sets, and fortunately, amongst ourselves, civil war is unknown; in this respect, we are all fairly entitled to be enrolled as members of the Peace Society. From the little difficulty experienced in the disposal of shares, the committee of management would not allow of any spasmodic or violent efforts being made to force the mine into notoriety, preferring that its publicity should be natural, and its popularity dependent entirely on its own merits; it cannot, therefore, be a matter of surprise that a gradual rise in the estimated value of shares should have taken place; during the last week the demand for shares has very considerably increased, and a greater number of transfers have been made than in any former week, and higher premiums paid, the principal transactions taking place at 1½

be injudicious to erect one at the present time, as they were not sufficiently advanced to judge with certainty of the right spot.

The CHAIRMAN said, he had had an interview with that eminent mining engineer, Mr. Josiah Hutchins, of the Devon Great Consols, who confirmed every statement made by Mr. Arundell respecting the mines, and had expressed a wish to join the enterprise. He had consulted several parties respecting the necessity of erecting a steam-engine, but they all agreed with the opinions obtained.

It was then agreed that Mr. Arundell be requested to go on with the enquiries respecting the steam-engine, but that the committee do nothing definite until the next meeting.

The next business was to authorise the committee to take proper steps for securing the services of a competent mining engineer. The Arundell Mines had obtained a very good name in the neighbourhood, not only from the prospects of the mines, but for their system of management, and the establishment of the library and the benevolent fund had given great satisfaction, and been duly appreciated by the miners. During the late inclement weather cloths and coats had been distributed to their families. Much good would result if their plan was generally adopted.

After some discussion, it was agreed that the committee should be empowered to secure the services of a competent engineer.

Several specimens of ore and gossans from the Devon Great Consols were produced at the meeting, and examined with the minerals from the Arundell, and although those from the Arundell were obtained at a depth of 7 fathoms, whilst those from the Devon Great Consols at various depths, it was difficult in many instances to tell the difference; the shareholders seemed much pleased with the affinity they bore to each other. A vote of thanks to the chairman terminated the meeting.

### THE DEVON TIN MINES (DARTMOOR, DEVON).

The first general meeting of shareholders was held at the office, New Bridge-street, on Thursday, the 10th inst., F. S. Paay, Esq., in the chair.

The CHAIRMAN said the object of the meeting was to establish the company, elect the committee of management and various officers, and decide upon the rules and regulations under which their affairs should be conducted upon the Cost-book Principle.

The SECRETARY gave a full explanation of the proceedings of the provisional committee, and said that the mine was originally called the Old Brimpts, and from February, 1850, to May, 1852, had been expended to develop it, when the most promising appearance presented; the shareholders disagreed amongst themselves, and refused to pay up the calls, although, according to their books, they engaged Mr. Adam Murray, the mining engineer, whose ability was so well known, to examine the mine, and that gentleman had given his decided opinion in its favour, and that a few hundred pounds would develop its resources. Mr. Adam Murray had since taken up 150 shares in the present enterprise. It was proposed to divide the company into 10,000 shares, of 1d. each. It was considered that a capital of 5000/- would be amply sufficient to develop the mine, 4000/- of which amount was already paid up, and in the bankers' hands.

Mr. GEORGE STRAKER, an old shareholder, said that tin had been raised and sold; the mine was a most promising one, and only stopped on account of the calls not being paid up. The old shares at 10s. paid, sold at 5/- per share and upwards.

Capt. James Ware had reported most favourably; the sett was more than two miles in length on the course of the lodes, and equally wide. It might be considered as divided into two mines; in the northern portion two well defined tin lodes passed through, and no doubt more would be discovered in the course of working. Two large water-wheels, about 20 ft. diameter, and 3 ft. broad, with nearly 200 fms. of rods attached, were ready to work—in fact, the whole machinery only required a small outlay to put it in order. The adit level had been driven on the course of the lode about 20 fms. west and 30 fms. east, and the ground at present was easy to excavate, and congenial for tin. The working appeared to be just left off, when it should have been most vigorously carried on. It was proposed to sink the mine deeper, and drive further levels, as the present wheel was of sufficient power to drain it 50 or 60 fms. deep. In the southern portion a shaft had been sunk 25 fms. from surface, now filled with water; it was proposed to drain it, and it was calculated that 100/- per month would be sufficient to work both mines.

The rules under the Cost-book System, which had been carefully drawn up and settled by Shirley Woollmer, Esq., barrister-at-law, as counsel for the shareholders, were then submitted.

The following gentlemen were then unanimously elected the committee of management:—R. M. Bates, H. E. Bicknell, T. C. Bates, H. F. Gibbons, R. Gibson, A. Greg, Evans, Capt. G. W. Keane, F. Lawrence, F. S. Parry, W. Tyler, S. F. Woollmer, W. Wills, and E. Woolmer, Esq.; and J. Whitton Arundell, Esq., as secretary and purser.

The CHAIRMAN proposed that the rules and regulations adopted should be entered in the cost-book, and signed by the purser on behalf of the shareholders present.—The resolution was carried unanimously.

An estimate of work for the mines was to be obtained, considered, and agreed upon. Mr. J. Ware was elected captain of the mine; and the meeting terminated with a vote of thanks to the chairman.

### THE DINAS GREAT COPPER MINE.

At a meeting of adventurers in this undertaking, held at Anderton's Hotel, Fleet-street, on Wednesday, the 9th instant,

WILLIAM GARRETT, Esq., in the chair.

The CHAIRMAN opened the proceedings by first drawing attention to the circulars and advertisement convening the meeting, and then observing that, in his opinion, one of the most necessary things in any company was to make it as public as possible.

Such was the wish of the directors in this instance; the undertaking was legitimate, and the fullest enquiry, therefore, to be courted. It was necessary that the shareholders should be satisfied with the mode of management, and he doubted not they would consider this a step in the right direction. He should at all times be happy to receive any suggestions from a shareholder; and he assured the meeting that such should have the directors' serious consideration. It was unnecessary for him to state much, the report being so very full. He regretted, however, that a box of ore, now in course of transit, had not arrived, as it would have afforded the shareholders the greatest possible satisfaction; it would be at the office, however, in a few days, open to their inspection. In reference to the remaining shares, it was the province of the adventurers generally to determine the course to be adopted with regard to their alienation—whether they should be offered publicly, or to the present shareholders *pro rata*. He then read the following directors' report:—

Bulleting that freedom of communication and a good understanding between the directors and shareholders in any joint undertaking is one of the first things necessary to ensure success, the directors of the Great Dinas have availed themselves of the earliest opportunity of inviting the shareholders to meet, not so much to communicate to them anything of fresh importance as to lay before them the actual state of the adventure after the first issue of shares, and to take their opinion on the fairest method of allotting the unappropriated shares. In the first place, it affords the directors much satisfaction to be able to state that the progress made in driving the levels on the hanging side of the sett has tended to confirm in the fullest degree the official reports previously made on inspection by Messrs. Williams, Fox, and Hughes, as to its extraordinary richness, as well as the facility and economy with which the workings can be carried on. There appears to be a solid chamber of copper and silver ore, the lode being about 20 yards wide, with branches 3 feet in thickness. The ore is of excellent quality, much better, it is believed, than formerly stated, yielding 25 per cent, and there are already several tons of it on the surface. The works of the mine are progressing in the most satisfactory way. One of the striking and unmistakable proofs of the extraordinary mineral richness of the sett is found in the fact of the copper in many parts obtruding itself to the very surface in the gossans. With a mine of such metalliferous value, and possessing such almost incomparable advantages for working, without sinking shafts or pumping out water, and only by the inexpensive course of driving levels to intersect the lode from the hanging side, it is obvious that the shareholders may reasonably anticipate not only a large but a comparatively speedy profit on their investments. The first issue of shares has now been completed, and the directors think it right, before offering the still unappropriated shares to the public, to submit to the shareholders that they should be offered to them *pro rata* on the shares now held. There is little doubt that the whole of them would be thus absorbed, the first adventurers reaping this advantage for their enterprise. The number on hand (3000) will give 85 for each 100 now held.

The CHAIRMAN then invited remarks or suggestions from any one present, and expressed his desire to afford all the information in his power.

Mr. CARPENTER, in moving the adoption of the report, thought that after so full an explanation, it would be very ingenuous to find a topic for much remark. The only thing that occurred to him was the exceedingly open and straightforward manner in which the directors treated the adventurers. Hitherto, for a long series of years, mining had been looked upon by the community at large in a very suspicious light—certainly in no favourable view with regard to the speculation: he believed such was attributable to the highly discreditable mode of concealment adopted by many directors with regard to the real position and prospects of their undertakings. Such conduct was highly reprehensible, reflecting as it did upon mining adventure in general. Here, however, the contrast was most happy: he certainly did think every praise due to the directors for their extremely open and fair method of dealing. It was now only about five or six weeks since the commencement of the undertaking; and he congratulated the shareholders generally upon the prosperous condition of their adventure. He regretted himself, the non-arrival of the ore—he should much like to see it, but still he fully believed the directors' statements. He begged to move that the report be received and adopted.

Mr. DAY having seconded this proposition, it passed unanimously.

Mr. DAY drew attention to the subject of accounts as kept at the mine. He had every confidence in the purser, but a considerable experience had taught him the extreme propriety of having the list of disbursements regularly forwarded at least once a fortnight.

Mr. W. LEAKE thought the shareholders would eventually be equally astonished and delighted at the result of their adventure, the mine was beyond all question of doubt one of exceeding richness; little or no machinery was wanted, and the expense of working would be moderate in the extreme. On Mr. Hughes' even reliance was placed, but of course due and necessary check would be required. It was the intention of a few of the directors to visit the mine shortly, when this and other arrangements, tending to the interests of the shareholders, would be attended to.

The CHAIRMAN thought Mr. Day's suggestions and remarks with regard to the account were very proper. The directors would take care that every precaution should be manifested in regard to this subject. The undertaking was now in its infancy, every care, therefore, was doubly necessary, he assured the meeting such was the feeling of the directors.

Mr. DAYNES thought a little time should be allowed to the present proprietors to make up their minds with regard to the absorption of the remaining shares; he moved that 14 days be allowed for the shareholders' consideration. Mr. JOHN DAY seconded this proposition, which was unanimously carried.

Mr. DAYNES could not refrain from adding his testimony to the excellent management and straight-forward open conduct of the directors; he moved a vote of thanks to them.

Mr. EDWARD WINTER returned thanks on behalf of himself. Enquiry was certainly to be courted, they had a good mine, and he was satisfied the adventurers would eventually receive substantial proof that such was the case. The time was likewise happily chosen, copper being in much demand, and fetching such excellent prices.

Mr. JAMES WINTER also acknowledged the compliment, and expressed his conviction that all would progress to the shareholders' satisfaction. The capital of the adventure would be carefully dealt with.

Mr. EDWARD WINTER proposed a vote of thanks to the chairman.—Mr. BENJAMIN JONES having seconded this proposition, observed that he knew the locality of their adventure well, and anticipated the full realisation of the directors' present expectations; he thought Mr. Day's remarks with regard to the accounts very opportune, although he had every confidence in the purser, he knew the necessity of keeping a check. In a note he had received privately since the report had been drawn up, an extraordinary statement was made relative to the discovery of silver; he forebore entering into particulars at present, but he would remark that if the assertion were correct, and he had no reason to question the character of his information, it would enhance the value of their property very materially.

The CHAIRMAN in acknowledging the compliment the meeting had paid him, observed that he knew his co-directors to be men of integrity and honour; he had tried them before, and had, therefore, no hesitation in joining them. He would co-operate with them with pleasure and confidence, so long as they continued to act in their present proper manner. He again thanked the meeting for the honour they had done him, when the proceedings terminated.

### HILL BRIDGE MINING COMPANY.

At a meeting of adventurers, held on Friday, the 11th inst., at the offices of the company, 17, Cornhill, JOHN BARCLAY, Esq., in the chair.

The following directors' report was submitted:—

In presenting the first annual report of this mine, the directors are of opinion that the information which it is needful for them to convey will consist principally of an explanation of the discoveries which have been made upon the various lodes, and of the preparations which have been made, and are now making, for working thereupon. Of the discoveries which have been made upon the various lodes, the directors conceive they are justified in speaking in terms of the utmost confidence and satisfaction. It will be observed, from the reports of Capt. Sparro, from time to time received, and of Capt. Verran, who has been instructed to inspect the mine, that four copper and two mica lodes have already been opened upon, all of which exhibit most flattering appearances, considering the shallow depths to which they have been tested. The lodes are large and regular, three of them ranging from 6 to 9 feet in width, and exhibiting all those favourable indications which are universally found near the surface on rich and valuable copper lodes.

The locality of this mine has always been considered to be a strong recommendation to favour. It adjoins the Great Friendship, the Old Wheal Betsy, and the Wheal Jewel, all of which have been eminently successful; and it is not too much to say of any of these important mines. The directors are, therefore, justified in concluding that the Hill Bridge Mine offers undoubted and daily-increasing encouragement for the investment and the expenditure of the capital of the shareholders; and they cannot entertain a reasonable doubt but that this mine, if properly prosecuted, must become a most valuable and remunerative property. Of their preparations for working, it will be needful for the directors to state that they were strongly recommended by the engineers they consulted, Mr. C. S. Richardson, to adopt the turbine and the centrifugal pump, patented by Mr. Gwynne, as affording the most economical and efficacious means of unwatering the mine. They are, however, sorry to say that the engineer has hitherto failed to put the turbine into successful operation; and in order that there should be no further loss of time, the directors gave instructions for the erection of two flap-jacks, which have been successfully at work, and which they find will be sufficient to enable them to prosecute all operations for several months, before the end of which period adequate machinery for permanent and effective working on the mine will certainly be completed.

The directors have now to inform the shareholders of the state of the funds—they have received for 2500 shares, 2500/-; interest on money and allotments, 58/- 16s. 1d. = 258/- 16s. 1d. The expenditure of the mine has been 2277. 16s. 3d.: leaving a balance in the hands of bankers of 536/- 16s. 8d.

The directors now beg to announce that the time has arrived when it becomes needful that the original shareholders shall declare their intention of taking up the 2500 pre-emption shares, according to the third rule of the constitution of the mine. It is, therefore, resolved—first, that the report of the directors and the balance-sheet be received and approved; and, secondly, that this meeting be adjourned until Friday, the 18th inst., when all persons entitled to the privilege of the pre-emption are requested to attend for the purpose of recording their intention, and that those who reside at a distance might have an opportunity of signifying the same, by letter, addressed to the secretary of the company. The directors have the pleasure of annexing Captain Verran's report:—

*Tavistock, March 8.—I find this sett is very extensive—viz., one mile in length, and three-quarters of a mile in width. Five lodes are known in the sett. No. 1, the north lode, cut in the field 120 fms. west of the river, is 7 or 8 feet wide, composed of gossan of a beautiful nature, with a leader in the middle of light prian, and on the north, or hanging wall, a white sugar-spar, 7 or 8 inches wide. In my opinion, this is one of the prettiest lodes that I have seen in Devon, and had there not been any other lode in the sett, this warrants a great outlay. A cross-cut has been driven 16 or 18 fms., and is within 5 or 6 fms. of cutting the lode, which will be done within one month from this date. About 20 fms. further south is the No. 2 tin lode, and from old workings a great quantity of tin may be expected even at the adit level. No. 3 lode, at Barclay's shaft, is 7 ft. wide, in a kilas or clay-late, which is likely to make large returns in depth; it contains black, red, and grey copper ore in places, but not enough at present to save. About 60 fms. further south there is a downright lode, No. 4, of no value at present. No. 5 is the Bridge lode, 4 ft. wide, underlying north, carrying tin and some spots of copper with barytes; it has the appearance of the Great Wheal Friendship lodes on the back, and congenial for copper ore in this neighbourhood, but in depth. Another lode is seen in the hill, but not of a very promising appearance. I find everything going on in a mining-like manner, also, to lay open the mine to the best advantage; and I would recommend (whatever may be done on other parts of the mine) that no time or expense should be spared in prosecuting the north lode as fast as possible, when I have no doubt of speedy and lasting returns.*

### NORTH BRITAIN BURRA BURRA MINING COMPANY.

A meeting of adventurers was held at the offices of the company, New London-street, Fenchurch-street, on Thursday, the 10th instant.

SIR FREDERICK G. POWELL, Bart., in the chair.

The SECRETARY (Mr. William Nye) having read the notice convening the meeting, the following report was submitted:—

The committee have caused notices for a special general meeting to be given, in order to consider the propriety of making an alteration in some of the rules—viz., the 12th and 14th. The first requiring notice of meetings to be published in two London newspapers and the *Mining Journal*; the latter, that the shares of this adventure shall be issued in certificates to bearer. The great disadvantage of the latter would be, in case of loss by fire or otherwise to the holder, and the trouble and risk it would cause to the committee if dividends should be demanded without the scrip. They, therefore, recommend that transfers be used agreeably to the Cost-book System, for the better security of all concerned; and if this should meet your approval, there will be no necessity for advertising; and they, therefore, recommend that notice be sent to each proprietor in lieu of the same.

Mr. T. E. SNOOK begged the meeting to give the subject of the report their earnest consideration—the principal object of the committee of management being that loss should not accrue to any proprietor by their shares getting into wrong hands, or being destroyed by fire. He was decidedly of opinion that transfers in accordance with the Cost-book System should be used.

Mr. FULLER expressed his conviction that the alteration was highly desirable, and strongly recommended it. The system of transfer brought with it no expense, or considerable security. When the name of a proprietor was once registered, his claim was always good until some further substitution took place.

It was then moved by Mr. WEATHERLEY, seconded by Mr. WICKER, and carried unanimously, that the 12th rule, requiring notice of meetings to be published in two London papers and the *Mining Journal*, should be rescinded, and that in future circulars should be sent to the various shareholders, giving the same time for notice.

It was then moved by Mr. STEWART, seconded by Mr. FITZGERALD, and carried unanimously, that for the better security of the shareholders in this adventure, and to prevent fraud, and in order to comply strictly with the rules of the cost-book, the 14th rule be rescinded, and in future the transfer shall be required before any fresh name can be inserted in the books.

The balance-sheet presented to the shareholders at the last meeting was then submitted to such proprietors now, but not then present; this showed the amount in the banker's hands to be 2123. 8s. 7d.

Mr. T. E. SNOOK moved the adoption of the report of the committee and the balance-sheet, and that they be printed, and circulated amongst the proprietors.

This resolution having been seconded by Mr. STEWART was carried unanimously.

An extraordinary document was here presented to the meeting, in which a monstrous and ridiculous claim was made on the company for damage to the stock of a farmer, residing in the locality of the mine; and after remarks on all sides, as to its foolish and exorbitant nature, it was decided that the matter should remain in the hands and discretion of the committee. By the Deed of Settlement, it appears that all questions of this nature must be settled by arbitration.

The sale of the ore at surface became the subject of conversation—the result, as recommended by the experienced proprietors, being that it was undesirable to sell a parcel of ore for the sake of enhancing in the eyes of the public the value of the shares, until they were in a position to produce regular periodical samplings. Such course would only give their property a temporary and false value in the market, tending to its ultimate depression.

After some little conversation on the exceedingly gratifying position of the company's affairs, and the excellent prospects offered by the quality and abundance of the ore, a vote of thanks was passed to the chairman, and the meeting terminated.

### NEW GRANADA MINING COMPANY.

The first annual general meeting of proprietors was held at the London Tavern, on Friday, CHARLES JOHNSTON, Esq., in the chair.

After the SECRETARY had read the advertisement from the *Mining Journal* convening the meeting, the report was read, of which the following is an abstract:

The first active step to be taken by the company after its establishment was the appointment and dispatch to New Granada of proper agents, to examine and report upon the properties already offered, and upon such others as they might consider desirable acquisitions for the company. The board think they may congratulate the company upon the selection they have made of these agents.

Dr. FLORENTINO GONZALEZ, a native of New Granada, and a gentleman of great eminence, to be appointed by his Government upon important missions to Europe, has been engaged about this time to be in London for private objects, and was introduced to the board. A negotiation was accordingly entered into with him on the subject, resulting in his appointment as the general agent of the company in New Granada for one year, in consideration of the sum of 1000/-, to be paid to him at once, and of 1000/- of the profits of the company to be awarded to him at the expiration of his engagement.

The intrinsic value of the properties, and the improvements they admitted of, could only be ascertained by a mining engineer, and it was, therefore, determined that such a person should accompany Dr. Gonzalez. The gentleman appointed for the purpose was Mr. John Whiteford, whose testimonials, of a high order, have been well borne out by his services to the company. The two agents left Southampton for New Granada by the packet, on the 17th of June last year, and reached Santa Marta, a seaport in that country, on the 7th July. Dr. Gonzalez and Mr. Whiteford had travelled since that period over 300 miles.

In their report the agents divide the mines into two classes—1st, those in actual working, belonging to comparatively wealthy people, and yielding large profits. In this class are comprised the Frontino, Zancudo, and other mines; 2d, those belonging to people who, from the want of sufficient capital and other causes, do not work them regularly. Among these may be mentioned the Juan Criollo, Bolivia, &c.

Soon, however, after completing their tour, the company's agents entered into a conditional agreement with the proprietors of the Juan Criollo and Bolivia Mines for their purchase, including a tract of land 9 miles long by 2 or 3 broad, and about 200 acres of land, for the very moderate sum of 3000/-, payable in London upon the company's taking possession. The richness of the specimens of ore received from Juan Criollo and Bolivia Mines is remarkable; and in one case, probably a picked lot, quite extraordinary. The specimens were assayed by the well-known refiners, Messrs. Johnson and Matthey, of Hatton-garden. The average lot produced—28 ozs. 11 dwt. 3 grs. of gold, and 11 ozs. 4 dwt. of silver to the ton; and the superior specimen, 463 ozs. 16 dwt. 22 grs. of gold, and 160 ozs. 14 dwt. of silver to the ton.

Mr. Whiteford's examination of the Frontino Mine was highly satisfactory to him, and the proprietor's books, which were submitted to him and Dr. Gonzales, showed that the net profits of the mine averaged more than \$27,000 per annum. It must be borne in mind, this result had been attained by New Granadian individuals, with New Granadian machinery, and under New Granadian superintendence. With English energy, skill, and capital, to back the undertaking, Mr. Whiteford confidently anticipated that the profits of the mine will shortly be more than doubled.

pitches are much as usual. The incline shaft is sunk 35 fms. below the surface, the lode is now standing in the western side of the shaft. We have suspended the adit end north of incline shaft for the present, on account of the lode being now west by a small slide. Kelly Bray shaft is sunk 8½ fms. below the 70 fm. level; the lode in the eastern end of shaft is 14 in. wide, composed of spar, mundic, blonde, and copper ore of good quality, we calculate getting the shaft to the 80 by the end of this month; the 70 cross-cut north is now driven 24½ fms., and have not as yet intersected Howe's lode, but are daily expected to do so, we have not seen the stratum more mineralised than at present; no lode has been taken down in the 70 end east since last reported; we have this day (March 7), commenced a rise or stope in the back of the 70 fm. level east by four men; this will lay open ground and ventilate the 60 east when it reaches this point. The lode in the 60 fm. level east is 4 ft. wide, yielding 3 tons of copper ore per fm., worth 7½ tons per ton. The copper-pitches are yielding fair quantities of ore, and the men earning good wages in the respective tributes.

**CARADON WOOD.**—The engine-shaft has been sunk during the week about 4 ft., making altogether 9 fms., 1 ft. below the 30. The cross-cut north of the shaft has been driven 4 fms., 2 ft., where we intersected a branch about 3 in. wide, carrying lead, but does not appear to be through all the lode. We intend driving a few feet further, to ascertain if there is any more lode or branch standing. The same level south has been driven 9 ft.; the lode is larger than it was last week—being about 2 ft. wide, and of the same character as last reported.

**CEDEN BRWYNO.**—The lode in the deep adit level is 2 ft. wide, with a little ore, but poor at present, being in a cross channel of ground, which is seen on the top of the hill at surface. The lode in the 35 fm. level has been cut into 7 ft., but the south wall has not yet been met with; it is composed of spar, blonde, and good branches of ore—this level will be pushed east and west, as the lode is looking equally well in both ends. In the 24, west from shaft, the level has passed through 10 fms., producing 1½ ton of ore per fathoms—the end will still produce 1½ ton per fm. The eastern winze is also producing 1½ ton per fathom. The lode in the adit east is looking very promising, and contains good branches of ore.

**CEFN GWYN.**—The lode in the 20 fm. level, driving east of the engine-shaft, is 5 ft. wide, composed principally of spar, with a good mixture of lead ore, yielding at least 15 cwt. per fathom; the same level is extended west about 3 ft., where the lode is 5 ft. wide, and much the same in quality as the one driving east. The men have been prevented from working some parts of the month in consequence of the frost.

**CHURCHSTOKE.**—The engine-shaft is down 7 yards, and the men have commenced walling it. We are getting out the foundation for the engine-house, the materials for which are daily arriving on the ground.

**CLEW BAY (MAYO).**—The driving on the Benders lode is going on rapidly, producing fine copper ore. The iron mines are looking rich, and we are making all possible progress. The box of specimens which I have sent has, I hope, safely arrived at the company's offices; they are of a rich quality, and will, no doubt, give universal satisfaction to all interested in mining projects.

**CREIGHTON.**—We have completed the lode, and have set the two ends in the 12 fathom level to be driven east and west. The lode in No. 3 end is 3 ft. wide, with good ribs of lead throughout, yielding ½ ton of lead per fm. The stopes east of the winze are looking well for copper, and some lead. In the stopes west of the winze the lode is not taken down. In No. 4 level the lode is 2½ ft. wide, composed of gossan, spar, and capels, with a small float on the foot wall, and two well-defined walls; a kindly lode at present for the depth. I expect a vessel next week for another cargo of copper ore.

**CUBERT UNITED.**—The driving of the 45 has been unavoidably suspended. It will be seen by our setting for March, that a party of tributaries had undertaken to raise 20 tons of lead from the backs behind this driving, for the sum of 30s.; this operation for a short time will interfere with the driving until the stumps, &c., are put in place, immediately after which the end will be forwarded again with all possible speed; the lode in the present end is worth 30s. per fm., and the stopes for many fathoms behind the end are equally valuable; there is also a very promising lode in this driving to the east, turning out some good bunches of lead, and in exceedingly favourable ground. There is an excellent lode in the 35 fm. level west, worth at present 20s. per fm., but the ground at present is soft and rather troublesome, no better indications or greater proof of a continuous profitable lode need be desired; this quarter of the mine at present is without doubt exceedingly encouraging; the stopes in the back behind the end are producing lead in satisfactory quantities. The lode in the 25 fm. level west has not as yet been attained by the cross-cut, but a very good lode has been cut in the 25 fm. level east, and there is every prospect of a greater improvement there are long. The lode in the 15 fm. level west is improving; here we appear to be approaching a change of ground, and if so we have reason to expect very satisfactory results. The mine never looked better, and there is no doubt we shall raise the quantity specified in our last, and which will be ready for sampling early in April. We shall resume the sinking of the engine-shaft as soon as we can procure the pitwork ordered from the founders, who at present appear to be much pressed with work. At Trebetherian, also, we are detained for want of the required pitwork.

**CWMMDYLE ROCK AND GREEN LAKE.**—Having had a considerable thaw for the last few days, we have been able to resume crushing, but on a limited scale, as the ice on the Green Lake prevents our boating the ore across. We have again commenced cobbling, and shall set on all the hands we possibly can, to enable us to prepare a large quantity of ore as soon as the transit will allow. The mine throughout presents a very favourable appearance. I am now collecting samples from the various stopes, which I purpose having ready for those gentlemen of the committee who I am expecting to arrive shortly to compare and select for the offices in London. No time should now be lost in getting the embankment across the lake, and the cottages erected, as the time has now arrived to send off a great quantity of ore, and employ a large number of miners.

**DEVON AND COURTEENAY.**—The 70 end west is much the same as last week. The 60 end west is much better than it has been for some time past; the lode is about 14 in. wide, producing some very good stones of ore; the lode in the pitch in the back of this level will turn out about 1½ ton of good ore per fathom. The lode in the shaft at Rundale, is much the same as last week.

**DEVON CONSOLS WEST.**—This being our setting-day, I have discharged all the shaftmen, for having worked so badly during the last month, and have set to a new set of men the sinker of Peel's engine-shaft, at 15/- per fm. for the month out, or 17/- per fm. if they will sink 3 fms., as I wish to give encouragement to the men to work hard in sinking till the lode is intersected. This shaft is now down 18 fms.; and during the last month the ground has been very spare for sinking, from being composed of hard floors of capel. There is now, however, a change for the better; and there are a great number of branches in the shaft about 6 in. wide, composed of spar, mundic, peach, prian, gossan, and spots of lead. As these branches are all dipping south towards the lode we expect to intersect from present appearances, it is very evident we are not far from a very large copper and lead lode. From the quantity of lead extracted from the branches, it is my firm belief that, at a depth of 30 to 40 fms., we shall have a productive lode, which will fully satisfy the company. Another agent writes—"I never saw stuff coming from a shaft more congenial for producing a good return of copper than what has been raised from the last fathom, where several branches have crossed the shaft dipping towards the lode."

**DEVON UNITED.**—We shall have cleared the levels by Thursday next, and hope in the course of another week to be in a position to report to you fully the appearance, size, and properties of the lead and copper lodes, from which we are taking good specimens. The late severe weather has been a very great impediment to our operations.

**DUNSELEY WHEAL PHENIX.**—Our whin will be completed this week, after which we shall soon see the result of the lode in the old adit. The men in the stopes have taken down some of the lode during the last week, it still produces good work for tin. The ground in the cross-cut is without alteration. We have intersected a branch, and have opened on it a little; we find it about 1 ft. wide, with rich veins of tin in it. I am about to accompany Capt. Verran to the mine to-day.

**EAST CROWNDALE.**—Our tribute pitches here are looking well. We have taken down no lode in the 55 driving east this week. The lode in the 47, driving west, is small, with spots of ore; the lode in the same level, driving east, looks promising, producing occasional stones of ore. We have not done anything in changing the pitch this week, as, from some misfortune at the foundry, they have not been able to get the necessary things ready for us; but they have promised them all by Monday morning. I have employed the sumpmen this week in driving the 47 east. We are getting on with our dressing as fast as we can, and shall now have a fine pile of ore by the next sampling day.

**EAST POLGOOTH.**—In the 30 cross-cut we are still discovering small bunches falling into the lode; in the 30 east we have still a large lode of a promising appearance, though not rich. In the 20 end west the lode is large, presenting a good appearance, with fine stones of tin; in the same level, on Leely's branch, the lode is larger, and is of a more promising character than last reported on; the 20 cross-cut is much the same as last week. New shaft is down 23 fms., ground much the same. The surface work is going on favourably, with the exception of the buildings, which is slow. The cylinder and some other castings for the stamps are on the mine.

**EAST TOLGUS.**—The adit end on North Buller lode has much the same appearance as when the agent wrote last; there is about 3½ feet of "horse" between the two lodes, each of which produce occasional stones of ore. No lode has been cut in either of the cross-cuts.

**EAST WHEAL ARTHUR.**—We have commenced sinking the engine-shaft on the course of the lode, which is 3 ft. wide, and is gradually increasing, with beautiful stones of ore in it. We are making every necessary preparation to erect a wheel.

**EAST WHEAL GEORGE.**—The lode in the engine-shaft sinking below the 32 fm. level is as last reported on; the lode in the 32 fm. level west is 18 in. wide, composed of peach, mundic, and spotted with ore. The lode in the stopes in the back of the 23 fm. level, west of shaft, is spotted with ore—good work for the stamps. The lode in the back of the 12 fm. level, east of shaft, is improved since my last, yielding large rich stones of ore, it being from 2½ to 3 ft. wide.

**EAST WHEAL REETH.**—The engine-shaft is already sunk 8 fathoms below the 44 fm. level; and every feature in the shaft is most encouraging. The north and south lode is larger, and more productive than usual; and in consequence of the improved size of the lode, we cannot sink quite so rapidly; however, we shall complete the shaft to the 54 in much less time than at first stated. The 44 fathoms level, going south from the engine-shaft, is extended 11 fms. towards Wheal Reeth east and west lodes, and by calculations we have only 7 fms. more to intersect these valuable tin lodes. We are employing as many hands as can possibly work to advantage at these points. We are raising some good quality tintstiff from the 24 fm. level. I would strongly recommend immediate arrangements being made for stamping the tin now being raised in the mine.

**EAST WHITE RUSSELL.**—The course of ore in the tunnel level is still looking well; the stopes in the back are improving, the men are blasting down rocks of grey and green, 1 ton in weight. Hitchins' shaft is still in splendid gossan. We have not yet cut through the lode in the 55 fm. level east, it is composed of gossan, capels, and spots of ore; we have cut through the horse of killas in the end west in the same level, we have a strong and kindly lode in this end. The end driving east in the 45, towards the cross-course and tunnel end, is producing fine stones of grey and yellow ore, looking very promising for a course of ore; the cross-cut driving north is just the same as last reported. We have commenced sinking the new shaft; and have broken some very fine shod stones of grey and yellow ore. Our engines are working well, and all connected with them. Capt. Matthew Francis has been here, and is highly gratified with the appearance of the mine.

**EAST WHITE RUSSELL.**—The men sinking Lawrence's shaft have made better progress for the last fortnight than they have done since we have been in the hard ground. In the heart of the 20 fm. level we have met with some fine lumpes of ore. The tributaries continue to raise about the same quantity of ore.

**ESGAIR LLEE.**—We cannot speak of any alterations in our general prospects since last reported on. The easier lode in the 12 fm. level above adit, east of Hardinge's rise, also in the rise above, is quite as promising and productive as ever. And in order to facilitate our returns, it is deemed most prudent to detach at once our pumping and

drawing gear from the crushing-mill, until the new pumping-wheel now in course of erection is completed.

**EXMOOR ELIZA.**—There is no alteration of importance since my last report, but I am pleased to see the killas in the 50 fm. level softer than it is in the 36, and apparently more highly mineralised. The 50 east is set to drive at 32/- 10s. per fathom; the same level west will be set to-day. The winze in the 36 is set at 6/- 10s. per fm.; the lode here is producing some ore of a very rich quality. The lode in the 50 fathom level west is 12 ft. wide, with well-defined walls; the south part is mixed with killas, which, contiguous to the hanging wall, is beautifully soft; and the north part, 6 ft. wide, is composed of white iron, mundic, quartz, capel, and spotted throughout with copper ore. According to the declination of the lode, we shall have about 4 fathoms further to drive west to come immediately under the very kindly lode which has been laid open in the 36 fm. level.

**GARREG.**—The tributary's pitch is improved, and the ore seems to be going down under the 20 fm. level; should it continue, I shall recommend sinking the engine-shaft another 10 fms. The tributary's ore is on the west side of the lode, whilst the level was driven on the east side, consequently the ore was not seen in driving the level.

**GAWTON UNITED.**—Our various surface operations, leats, roads, &c., are in a forward and active state. The wheel-pit will be cut, if nothing unforeseen occurs, by Tuesday next, and would have been out now, according to our former report, had not four of the men been on the sick list this last week, and we have not been enabled to replace them, labourers being scarce. The lode in the wheel-pit is larger than last reported, being now 10 ft. wide, composed of gossan, capels, spar, mundic, and spotted with ore. In making our road from copper quay to wheel-pit we came in on the back of the south lode; it is 12 ft. wide, producing fine rocks of gossan, spar, and mundic—a splendid looking lode. At Fuller's shaft, the ground continues good; we hope to have the lode soon, when our progress in sinking will be facilitated.

**GOLDEN MILE (LEAD).**—At Colwinstone, we have sunk on Tindall's lode's between 6 and 7 fms., and have also opened on it 23 fms., further west, where it is even better than in the shaft; we have been coexisting through this part of the sett during the last month, and have discovered four other lodes, not large, but all yielding lead. At Llantarn, we have walled up the collar of Bonwell's shaft, and resumed sinking, and have this day (March 7) cut a lode in the bottom, which we did not expect to meet; from the little we have seen of it, we can merely say that it has a promising appearance, but shall be enabled to report more fully in a few days. On Williams' lode we have sunk a trial shaft about 200 fms. west of Bonwell's; it is there full 6 ft. wide, composed of lead, gossan, and barites; in fact, presenting the best appearance we have yet seen in the mine. One of the shareholders has been over the ground to-day, who is highly pleased with what he has seen, and feels quite confident of success.

**GREAT CRINNIS.**—Our shaftmen have finished the engine-shaft, and the engineer has furnished us with the drawings for the buildings, therefore the masons will commence the walls this day (March 7). We are preparing quick stone, and shall have a good supply. The carpenters and sawyers' houses and smiths' shop are nearly completed. We have a party of men putting in the adit to the engine-shaft, and some few hands on sundry preparatory work. Every exertion is being used to get the engine to work. The ground in the north cross-cut is harder than usual, being intersected by some branches. The tributaries are still raising a little ore.

**GREAT DUCHY.**—The engine-shaft is down 11 fms., 2 ft. The ground is a little more compact than when I wrote you last, but still quite as kindly for lead, and in a very promising stratum.

**GREAT WHEAL BADDERN.**—The lode in the 40 is 6 in. wide, composed of mundic and spots of lead. The lode in the rise above the 30, against the new shaft, is 1 ft. wide, producing some good work for lead. The lode in the 20 east is 6 in. wide, unproductive at present; the lode in the adit level west, on the new lode, is 2 ft. wide—gossan, mundic, &c. The lode in the back of the 20, west from Sanderston's, is 10 ft. wide, the whole of which is good work for tin. We have met with a lode in the new shaft underlying north; it is about 6 in. wide, composed of jack and good stones of lead; this will fall in with the lead lode in about 10 fms. further sinking, when we may expect an improvement in both. The stopes and tribute pitches are looking much the same as for some time past. We expect to sample to-morrow from 35 to 40 tons of lead ore.

**GUSKUS.**—We are now very busy making preparations to put up our new water and steam machinery, and the weather is very appropriate for all our grass work. I am sorry to say that we have not been able to make that progress we used to make in sinking our engine-shaft, which is now down a little more than 7 fms. below the 30 fm. level, and the lode looks promising to do us much good, being now in a course of tin and good water. Our levels are opening, on the whole, as fast as we can expect, and with a fair prospect for tin and copper. In fact, our 30 east, on Guskus side, and our 20 west, on Martin's lode, is opening quite cheering. We sampled yesterday (March 7) 67 barrels of tinstuff, after stopping some of our best tin pitches, till we get our own machinery to work, so as to make our own returns, and be enabled to sell to the best advantage. Our copper pitches are turning out just to our anticipation, and expect we shall get from 40 to 50 tons to sample on the 22nd inst.

**HALLAMANNING AND CROFT GOTHAL.**—At Flat-rood shaft, sinking under the 25 fm. level, the lode is 4 ft. wide—very promising, and a good leader of yellow ore on the south side 4 in. wide. In the 60, driving east of ditto, the lode is 5 ft. wide; in the 60, west of ditto, the lode is 2½ ft. wide—4 in. yellow ore. In the 45, east on Lead's lode, the lode is 1 ft. wide—yellow ore. Ommanney's shaftmen are still employed in securing the shaft with timber. In the 52 east the lode is still carrying a portion of the elvan with it, but is more promising, and is getting wider; in the 32 west the lode is 3 ft. wide, 1 ft. ore. In the 40, west on Bulley, the men are put to rise; and in the 30, west on ditto, they are put to sink, in order to ventilate these levels. The tribute is much as usual.

**HOLMBUSH.**—The ground in Hitchins' engine-shaft is favourable, and is sunk below the 14½ fm. in. The ground in the cross-cut south of the said shaft, in the 14½, is also favourable, in soft killas, and is extended 30 fms. 5 ft. 5 in. towards the lode; the lode in the diagonal shaft, sinking below the 14½, is 15 in. wide, producing stones of rich copper ore—sunk 7 fms., 3 ft. 4 in. below the 14½; the cross-course in the 14½, west of the diagonal shaft, is principally quartz; we have suspended the eastern end in this level for the present, but only for a short time. The ground in the 13½ fm. level south, east of the above shaft, is soft, but no branch as yet intersected. The lode in the 12½ fm. level, east of the great cross-course, is 2 ft. wide, producing 1½ ton of ore per fm. The lode in the 11½ fm. level east, is 3 ft. wide, producing 1½ ton of ore per fm. The lode in the 10½ fm. level west from Wall's engine-shaft, or east from the winze in the 100, since our last report. The ground in the 12½ fm. level cross-cuts, north and south of Wall's shaft, is moderate; and the south one is extended 23 fms., and the north one 22 fms., 3 ft. 2 in. We have set a winze to sink below the 12½ fm. level west of the great cross-course, to communicate with the 14½ as early as possible, both for ventilation and laying open the ground to advantage.

**IVY TOR CONSOLS.**—A wheel has been erected 20 ft. diameter, by 4 ft. breast-pump rods, and all machinery in good working order. The engine-shaft is sunk 15 fms., a plat out, and sinking for a fork. We are now arranging for our easterly shaft rods, lifts, &c., preparatory to our sinking the next 10 fms., where I anticipate better ground shortly. The shaft will intersect the lode at about 48 fms. deep, and when completed will leave back in the hill 80 fms. high on the course of the lode. The former workers sunk a winze in the bottom of the adit level from 2 to 3 fathoms deep, and were obliged to suspend it in consequence of the water. Since we have commenced operations by sinking the shaft we have drained the winze, although we are giving near 20/- per fathom for sinking, and the shaft is 20 fms. from the winze; this bids fair for a change in the lode by a more congenial stratum of ground under the Tor, and what I anticipated and expected. The lode in the winze is about 5 feet wide, composed of peach, mundic, quartz, spotted over with yellow copper—some stones may be picked out worth saving. The expense of working this mine will be trifling when compared with others, having abundance of water available from the Taw for drawing, crushing, and every purpose connected with mining.

**KESWICK.**—At Brandt, the 20 fm. level north is producing stones of ore; the rise in this level is worth 5 cwt. of ore per fm. The 30 north is producing stones of ore; the stopes in this level is worth 25 cwt. of ore per fm.; the stopes in this level south is worth 12 cwt. of ore per fm. Wilkinson's level, at the Barrow Mine, is worth 15 cwt. of ore per fm.

**KILBRICKEN.**—Since my setting report, I find throughout our workings no material alteration. The water is well kept out, and the men are working regular in the cross-cut, and are driving about 3 ft. per week. I anticipate an improvement in the stopes north of the winze I see no alteration in the lode. The stopes in the back of the 20 fm. level at the present time does not look so well. In the 20 fm. level east the lode is unproductive.

**LAMERTON UNITED.**—The lode in the adit level is looking more kindly than ever, being full 10 feet wide, firm, strong, and masterly, carrying great quantities of spar, mundic, prian, peach, and deeply stained with greens or oxide of copper, which is a good indication, and in depth will no doubt prove productive.

**LEEDS TOWN CONSOLS.**—The engine-shaft is now sunk about 15 fathoms—the rise in the ground is 10 ft. per fm., and for ventilation we intend sinking a new shaft; this will not occupy us more than a week. We have now only about 7 fms. more to drive to enable us to get the water down, and I shall lose no time in letting you know when this is accomplished. If the weather remains fine, we shall have the engine-house ready for the engineers in about three weeks. You will perceive that our preparatory work is nearly finished, and I hope soon to send you reports on the lodes, &c.

**LEWIS.**—For the present we have suspended the cross-cut in the 100 fm. level, and put the sumpmen to sink the whim-shaft from the 90 to the 100 fms. levels, when we shall be in a better position for drawing the stuff, &c. The south lode, in the 90 fm. level, east from the shaft, is 2 ft. wide, worth 12/- per fm.; west, it is 18 in. wide, opening tributary ground; the north lode in this level, east from the shaft, is 2 ft. wide, good stamping work; this lode in the 80 fathom level, east from Praed's shaft, is 3 ft. wide, 10 ft. per fm.; in the rise in the back of the 70 fm. level, east from Praed's shaft, it is 2½ ft. wide, producing good stones of tin. We shall sample on Tuesday, the 15th inst., 20 tons of tin.

**LOVEDEN UNITED (CARDIGANSHIRE).**—In clearing some old workings on the course of the lode westward from adit, we have discovered some good large branches of rich lead ore left standing by the ancients, and which can be taken away at a

that we cannot be far off the lode. We have hoisted the rise in the back of the adit level, and shall immediately recommence driving the level north.

ST. AUSTELL CONSOLS.—At Dawson's engine-shaft we are again sinking; the ground is good, and the water at present is not very quick. At Grout's engine-shaft we have nearly completed our bearers for taking up the breaks. At Hancock's we have just commenced breaking down a portion of a branch of copper ore, and find it is rich—we cannot yet say much about it until further developed. At Hoppet's, in the end east, we have varied the direction of the end to hole to corner shaft, and consequently left the lode one side of the level (south side); the ground at present is hard for our strata, we are giving 55s. per fm. for driving this end; in the back the lode is about 3 ft. wide, and where we are at present raising it looks promising. At surface our engine-house is getting on well, and all our other surface work is going on favourably. We are getting the materials home from Bodmin as fast as the carriers can bring them.

TAMAR.—In the 215 end the lode is 6 in. wide, producing good stones of ore. In the 265 end the lode is 1 ft. wide, composed of spar and horn-spar, with a small quantity of ore. In the 190 end the lode is small and unproductive. The 175 end is nearly through the slide, and the lode is just making its appearance, but at present small, in the 160 end the lode is 3 ft. wide, good saving work. In the 145 end the lode is 15 in. wide, 1 ft. of which is yielding work of a profitable nature. At the north mine, in the 100 fm. level we have cut the east part of the lode, which is about 9 in. wide, composed of spar, muriatic, and spots of ore. In the 90 end the lode is 2 ft. wide, 6 in. of which is rich work. In the 80 end the lode is 2 ft. wide, 1 ft. of which is yielding work of a moderate quality. We sampled Saturday the 14th inst., computed, 66 tons of rich silver-lead ore, for sale on the 15th inst. The falling off in the sampling this month is occasioned by putting in a new boiler at the stamps, and not being able to get people enough for dressing the crop ore; but I am glad to say that the steam stamps are now in good order, and will compensate the present small sampling by the increased quantity for the next two months.

TEES SIDE (CUMBERLAND).—The snow, which has been drifted here in some places 17 feet high, is fast disappearing; our progress in erecting the steam-engine has been interrupted, but the roads are now open, and we shall commence again on Monday.

During the storm we have been able to push forward our operations both at Emerson's level and at Metal Band; in the former we have cut a vein, which is not yet proved, but appears likely to be productive in the lime above. At Metal Band, a great improvement has taken place since my last; the ore has increased considerably for some days past, and is now producing about 1 ton per fm. We have not yet made any trial in the lime above, as the intersection I have before named is now only a few fms. before, at which point I have good reason to believe that we have a very rich mine.

TINCROFT.—At North Tincroft, the lode in the 130, driving east of engine-shaft, is 2 ft. wide, worth 23t. per fm.; in the west end, in the same level, the lode is disordered by many cross-courses. In the 120 east the lode is 2½ ft. wide, worth 87. per fm. per fm.; in the west end, in the same level, the lode is 3 ft. wide, worth 16t. per fm. In the winze sinking below this level the lode is 4 ft. wide, worth 99t. per fm. In the 110, driving west, the lode is 4 ft. wide, worth 15t. per fm. In the winze sinking below the 100 west the lode is 4 ft. wide, worth 39t. per fm.; in Mills's winze, in the same level, the lode is 3½ ft. wide, worth 15t. per fm. Highburrin tin lode, in the 132, east of engine-shaft, is 4½ ft. wide, worth 12t. per fm.; the stopes in the back of this level are worth 15t. per fm. In the 142, east of Martin's east shaft, the lode is 2 ft. wide, worth 12t. per fm. The stopes in the back of the 132 are worth 11t. per fm. Chapple's lode in the 142, west of engine-shaft, is 2 ft. wide, worth 6t. per fm. In the 120, driving west of Downright, the lode is 2½ ft. wide, producing good stones of copper ore. In the 110 west the lode is 3 ft. wide, worth 82. per fm. for tin and copper. In the winze sinking below the 100 west the lode is 3 ft. wide, worth 18t. per fm. Dunkin's lode in the engine-shaft, sinking below the 110, is 3 feet wide, saving work for tin and copper; in the 110, driving east of said shaft, the lode is 3 ft. wide, worth 5t. per fm.; in the west end, in the same level, the lode is 3½ ft. wide, worth 9t. per fm. The stopes in the bottom of the 100 are worth 10t. per fm. for tin and copper. In the 90, driving west on the south part, the lode is 2 ft. wide, worth 9t. per fm. for tin and copper.

TREBELL CONSOLS.—We are progressing as fast as possible with the necessary work, previous to putting the engine and stamps to work, which I hope to do in a day or two. We are stoning, drawing, and preparing for the stamps.

TREGUNE CONSOLS.—The junction shaft is sinking satisfactorily. We are now in course of sinking on the central branch of the old workings, and are breaking tin. We are also clearing up the workings on the north branch, where we expect to break tin. We are likewise clearing up the old workings further west on the central branch; I have no doubt we shall obtain tin here also.

TREMAB.—We have driven about 10 fms. west at the 24, on Norris's lode, for some distance through unsettled ground, which considerably disordered the lode, but it is now in a more settled state; and has increased in size; it is now about 3 feet wide, producing good stones of copper ore, and has every indication of still improving. Six men are employed in driving this end, and nine men are sinking the engine-shaft, which is about 6 fms. below the 24. We should, by this time, have sunk the shaft deeper, but for a temporary delay, as we are obliged to take the men from the shaft for a short time to drive on the lode, in consequence of a scarcity of men. We have also opened on the backs of the lodes to the south, and I would strongly recommend a shaft being sunk on Raby's lode, as the Treman lode is a short distance further south, underlying north, and the sawpit lode, a short distance north, underlies south; these two lodes in depth will form a junction, and from the favourable appearances on the backs, as well as among many other mine agents who have seen them, but one opinion, which is, that in a short time we shall, by the aid of the present machinery, be enabled to open these lodes, which have a most promising appearance, and that we shall, as long, prove Tremar a valuable mint. At the same time, I would recommend the present shaft being sunk to enable us to open Norris's lode at a greater depth, as I am satisfied, from indications at the 24, we have every reason to expect good results at a deeper level.

TRELAWNY.—At Trelawny's shaft, in the 120 fm. level, north end, the lode is 3 ft. wide, and worth 4t. per fathom; in the south end it is 3 ft. wide, and worth 9t. per fathom. In the 107 fm. level, north end, the lode is 3½ ft. wide, and worth 10t. per fathom; in the south end it is 2½ ft. wide, and worth 15t. per fathom. On the north mine, we have fixed the large lift in Smith's shaft, referred to in last report; part of the shaftmen are now employed cutting the plat in the 85 fm. level, the others are driving the cross-cut towards the lode, which is now extended 2½ fms.—a great quantity of water is coming from it, and expect to cut the lode soon. In the 78 fm. level, north end, the lode is 2½ ft. wide, and worth 10t. per fathom. In the 68 fm. level, north end, the west lode is 1½ ft. wide, grey; the east lode is 3 ft. wide, and worth 20t. per fathom. We have intersected a branch in the 55 cross-cut containing some lead, and which, as well as the ground, &c., is much like that we see near the lode in other parts of the mine. The stopes and pitches are yielding fair quantities of work.

TRELEIGH CONSOLS.—I believe you are aware that we are not doing anything on tuckwork in this mine; we have six men employed attending to the engine and other shafts, which occupy nearly all their time, as the water is still very quick, and on Peare's lode 6 fms. have been driven east, without improvement, the lode about 1 ft. wide, nearly all spar.

TYWARDREATH.—Four fathoms have been driven north of Taylor's shaft since last account, without meeting with any lode. The south cross-cut has been driven 6 fms. and a lode cut 4 ft. wide, composed principally of spar and peach, with a little muriatic and black jack, and a few spots of copper ore, the ground still rather hard. On Peare's lode 6 fms. have been driven east, without improvement, the lode about 1 ft. wide, nearly all spar.

UNION (TIN).—I have very little alteration to report this week. We are still driving west by the side of the lode, and stoning the backs, to keep the stamps going. We shall set a parcel of tin on the 10th inst.

VALE OF TOWY.—In the 10 fm. level the stump has been sunk 8 ft., having a good lode of lead at the bottom of the shaft—driven north on a good lead 2 fms.; the lode in the present end will produce 1½ ton of lead per fm., which will be set to drive as soon as plat, &c., is completed. The setting for the present month is—Clay's shaft to drive 2 fms., then to cut, and resume sinking the shaft, the driving north and south on the lode to be continued by other hands. A winze to sink under the adit level, north of said shaft, to six men, 2 fms., at 6t. per fm.; the lode is 3 ft. wide, producing 3½ ton of lead per fm. The adit to drive south by two men, 2 fms., at 5t. per fm.; the lode is 3 ft. wide, producing stones of lead.—Nant Shaft: To drive south on the west lode, by two men, 2 fms., at 4t. per fm.; the lode is 18 in. wide, with occasional stones of lead; to drive the split of the lode north to the south of said shaft, on the east side of the level, by two men, 2 fms., at 5t. per fm.; the lode is 18 inches wide, mixed with good lead. A new winze to sink under the adit north of Bonville's shaft, by two men 2 fms., at 4t. per fm. The shaft to the west of Clay's engine-shaft, to sink by six men 1 fm., for 30s.; the lode is 3 ft. wide, producing ½ ton of lead per fm.. A pitch to the south of Field's shaft, in the back of the adit, to two men, at 4t. per 21 cwt. of lead ore.

WEST ALFRED CONSOLS.—The north lode in the 75 fm. level, west of Badley's winze, is 2½ ft. wide, worth 12t. per fm. The south lode in the 75 fm. level, west of Badley's winze, is 4 ft. wide, worth 8t. per fm.; this end is still producing a great quantity of water, which must evidently proceed from a large lode to the west of us. The lode in the 65 fm. level, west of old sumptuous shaft, is 4 ft. wide, worth 20t. per fm.; in consequence of a western dip in the bunch of ore which we had in the level above (the 60), we shall have to extend this level 4 or 5 fms. further to meet with it. The 60 fm. level is suspended, to sink a winze from this level to the level below. The lode in the winze sinking under is 7 ft. wide, worth 40t. per fm., opening a very valuable piece of ground. The stopes in the back of this level are worth 18t. per fm. The 55 fm. level is suspended, to rise against Philip's shaft, which is in very congenial strata—kilns, intermixed with soft spar. Since last report the water has sunk 3½ fms. in Philip's shaft, being now 25 fms. below the 25 plat; we have now 4½ fms. more, which we intend to draw out and immediately resume its sinking. Should we escape any further flood, we may calculate to communicate this shaft with the 65 in about two months, which will be of great importance to open our western ground.

WEST BASSET.—A few days since we opened a vug in the 75 fm. level east on the north lode, which drained all the upper levels, and raised the water in the engine-shaft 10 fms. Large stones of ore were washed out of the vug into the level, the lode in the end is 4 ft. wide, and very good. In a winze sinking below the 55 fms. level we have a good course of ore, producing 9t. per fm. The lode in the 65 end is about 4 ft. wide, productive. The water is again in fork, and the sumptuous working in the bottom. The ends continue to look well, and the winze on the caunter is producing a good pile of ore.

WEST DING DONG.—Since our last report we have driven our two bottom ends in the 10 fathoms level, on Richard's lode, at the flat-rod shaft, 6 fms.; the lode in the present end is 15 inches wide, worth for tin 15t. per fm. We are progressing with all possible speed in cutting our plat and other necessary work, in order to sink the flat-rod shaft under the 10 fm. level, on Richard's lode; the lode in this shaft is 3 ft. wide, worth for tin 25t. per fm.; the stopes east of the shaft are worth 15t. per fm. We have taken down the lode in the bottom ends at the engine-shaft, on Richard's lode; it is worth for tin 8t. per fm. The lode in the western end in the 27 fathoms level, on Fadistreven lode, is worth for tin 8t. per fm.; the lode in the eastern end is 8 in. wide, worth 12t. per fm. We expect by driving 2 fms. more in this end to intersect Trexie's lode, where, from present appearance, I should imagine we are likely to have a good

WEST GOGINAN.—The engine-shaft is down, and the men have commenced driving the 45 fathom level east, where the lode is 6 ft. wide, composed of clay-slate, with a mixture of muriatic, spar, and lead ore; at our next setting we shall put six men to drive west on this level on the course of the lode. The ground in the 30 fm. level cross-cut is much the same in appearance as it has been for the last month, in

which we have unwatered the Ryder, and the lode which intersect it

for a great distance. The men are enabled to make much better progress in driving through the lode, but we have not yet (though we are upwards of 20 ft. in it) reached the south wall, the lode is of a very promising character, and similar in its nature to those portions which have proved so well at the White Grit and Penkerley; I expect in a day or two we shall be driving on its course. No. 3 shaft is sinking without any alteration. We have sunk 10 yards upon the Village lode, which I am glad to say presents the appearance of opening again in a very promising way.

WEST PAR CONSOLS.—The engine-shaft is sunk about 3½ fms., well secured and stanchions around the timber with clay: the first 12 ft. being loose sand, it required much care to dam back the water, otherwise it would drain the surface to a great extent, and cause the shaft to be wet and troublesome; this is now completed, and we shall be able to continue the sinking while the engine is being got ready. We have had a good deal of work to do in making and stoning the road for entering the mine with the building stone and heavy materials, &c.; also in building an extensive piece of wall between the new shaft and the turnpike-road, which we were requested to do. Every operation, however, is being carried on with the utmost speed.

WEST WHEAL BULLER.—I visited the mine yesterday (March 6), and found the men had finished their barges; I have now set them to sink the shaft to the adit, and to divide and case the earth, for 14t.; I expect it will be finished in five weeks from this time. Timber is very scarce at the different wharfs in this neighbourhood; I have agreed with a company at Marston for 400 ft., which is all I can have at present. We shall want a quantity of timber for dividing and casing the shaft, and a new horse wharf, which we shall begin building as soon as the timber arrives. I hope you have by this time made a contract for the engine, that we may commence building for it with all possible speed, as the summer is arriving, and the price of tin

is now in good order, and will compensate the present small sampling by the increased quantity for the next two months.

WEST WHEAL EDWARD.—Within the past week we have opened on a lode near the northern boundary of the sett about 20 in. wide, composed of killas and spar, impregnated with muriatic and spots of yellow ore. Very little alteration has taken place in our other operations.

WEST WHEAL ROBERT.—From a survey which I made, in company with Capts. Ogle and Pryor, I believe that you have got possession of a first-rate piece of ground. It has the great elvan course which, after being heaved, terminates in it, besides the Wheal Franco cross-course, upon which great quantities of mineral have been found. It has all the North Robert lodes passing in an horizontal, and therefore similar clay-stone right up to the influence of this metalliferous elvan course, and abutting against the cross-course. Capts. Ogle and Pryor, I believe, concur in my views.

WEST WHEAL RUSSELL.—We have not yet intersected any lode in the cross-cut in the 60 fathom level. There is an improvement in the appearance of the cross-course, having beautiful fluor-spur with ore in it. There is also an improvement in the appearance of the lode in the 60 fm. level, having more ore in it. We have not taken down any of the lode in the 57 fm. level since my last report. We have continued to sink Bayly's shaft, but have not taken down the lode since my last report. There is a little improvement in the appearance of the lode in the adit level driving west, producing gossan, with occasionally stones of ore.

WEST WHEAL TOWAN.—A level has been set to drive east on a lode cut in the 40 cross-cut, north of Taylor's shaft, supposed to be the same lode which made a fine shoot of the ground in Wheal Lushington. Caroline's shaft has intersected a large slide or lode in the past month, the effect of which upon Wheal Tye lode will be ascertained this month. In the levels on Wheal Tye tin lode there is no change of importance. Some good stones of copper ore have been broken in the 25, west of Kite's shaft, on Taylor's lode, and the lode in the present end of the level is looking very promising. The next sampling of tin is expected to be about 10 tons.

WHEAL ARTHUR.—North Lode: The lode in the 50 west is 6 ft. wide, yielding 1½ ton of ore per fm., worth 9t. per ton; the lode in the 50 east is as last reported. The lode in the 35 west is 3 ft. wide, producing 2 tons of copper ore per fm., worth 8t. per ton; the lode in the 35, east of the great cross-course, is as last reported. The lode in Cruse's slope, in the bottom of the 35 west, is 5 ft. wide, yielding 2 tons of ore per fm., worth 10t. per ton. The lode in Cook's slope, in the back of the 35 west, is 4 ft. wide, producing 2 tons of ore per fm., worth 9t. per ton. The lode in Hartland's slope, in the back of the 35 west, is 4 ft. wide, producing 2 tons of ore per fm., worth 10t. per ton. The lode in Burgess's rise and slope, in the back of the 35 east, is 3 ft. wide, producing 1½ ton of ore per fm., worth 9t. per ton. The lode in Honeycombe's rise, in the back of the 35 west, is 4 ft. wide, producing 1 ton of ore per fm., worth 9t. per ton. The lode in Bashleigh's winze, sinking below the 20 west, is 3 ft. wide, producing 1 ton of ore per fm., worth 9t. per ton. The lode in the 20 west has improved since last report, and is 3½ ft. wide, yielding 1 ton of ore per fm., worth 12t. per ton. There is no alteration since last report.

WHEAL AUGUSTA.—On the guide lode in the 28 fm. level, west of Graham's shaft, the lode is large, and in an improving in quality. We are still stoning this level west of the winze. The lode as far as opened is over 7 ft. wide, with only one wall, and is looking better for tin than at last report. The fork in this level, east of Graham's shaft, is completed, and we are now expediting our pitwork to draw the water as fast as possible. In the 18 fm. level, on the new south lode, the lode is from 6 to 8 inches wide, but not so rich for tin as we could wish. On Wheal Augusta lode, under the 18 fm. level, we are still stoning: this lode is 30 in. wide, and much improved since last report. In the 10 fm. level, east of the engine-shaft, the lode is from 9 to 10 in. wide, and improved in quality, still continuing good for tin; this is under the "iron," alluded to in our letter of 3d inst.; and if it holds as it is at present, which we expect it will, it will do very well indeed.

WHEAL BAWDEN.—We have hoisted the adit to the engine-shaft, which comes in 3½ fms. under the bottom of the shaft, 7 fms. 3 ft. 6 in. deep, which will save nearly the cost in pumps, besides the advantage on the wheel, &c., in a day or two we shall commence sinking again. The wheel is slowly progressing; we cannot get a sufficient number of carpenters, but as we shall have to sink nearly 4 fms. more for the lift of pumps, I think by that time we shall have the wheel in course. We are now taking out the bob-pits, &c., and are hastening on the work as fast as possible.

WHEAL CATHERINE.—The lode in the shaft is 12 to 18 in. wide, containing a branch of flockan 5 to 6 inches in width, and spotted with lead. We have found stones of gossan in driving the eastern adit level.

WHEAL CREBOR.—Our tribute pitches are still holding good. We shall sample this month about 40 tons of good quality ore, if we have our castings for the crusher in time. There is no material alteration in our tuckwork since last report. We have put some men at Gill's to clear up a winze, to endeavour to form a communication with Rundale's, as a means of throwing open tribute ground.

WHEAL EDWARD.—The shaftmen are sinking satisfactorily. The water is very easy; we can keep it at present, and sink with water barrels. We have done away with the whim-engine for the time. The engineers are still busy about the engine; I hope to say something to you next week about our going to work.

WHEAL FANNY.—At Hitchins's shaft we are raising the sets of timber, and securing the shaft, much more expeditiously than I anticipated. We have made good 7 fms. below the adit level. The lode upward is draining; and I think we shall succeed in making the shaft as firm as ever it was in about a fortnight. In the new level a cross-cut has been driven 4 fathoms; and, from dialling the ground, we have about 9 fms. more to intersect the north and south lode, while I think will require this month to complete if the ground continues favourable. In the old engine-shaft

we have not been done this week—the water being in some parts below the 18. The sumptuous has been engaged in driving west from the caunter lode to prove the ground, and have driven 2 fms.

WHEAL FORTUNE.—The lode is about the same size as when last reported, but the soft or leader is increased to 2 ft. wide; there is more water issuing from the lode, the ground is better for driving, and the lode improved. I think we are approaching the ore ground gone down in the bottom of the adit level; we have set two men to the 20 west to north to day (March 9), and shall set on more as soon as we can get them.

WHEAL GRENVILLE.—The 70 cross-cut, north from the engine-shaft, is letting out a great deal of water, and the engineer thinks it is approaching a lode. A piece of ore in the 40 fm. level is now being stripped down, and is producing some very good stones of ore.

WHEAL HARRIETT.—The lode in the 50 east is 18 in. wide, grey, and an improving looking lode. The lode in the 40 east is 2 ft. wide, will yield 1 ton of copper ore per fm., and likely to improve. There is no other alteration in the mine worthy of notice.

WHEAL JAMES (IRON AND COPPER).—Since our last report, we have extended the 30 fm. level about 30 fms. south on the course of the lode, which is greatly improved, being now 9 ft. wide, producing 25 tons of excellent iron ore per fm.; this is still producing fine specimens of green copper, and fresh new appearances, the next 10 fms. in depth will yield large quantities of this ore. The stopes are just as last reported. Proctor's shaft is down to the 20 fm. level; we are pushing the lode as fast as possible, and hope soon to open a communication with the adit. This will enable us to increase our returns double, and at a less cost; the gossans abounds with rich underbark of the finest quality. We shall commence to prepare this for the market immediately. The process is very inexpensive, and will give a large profit. Upon the whole, our prospects are most encouraging, and it will, no doubt, be a most profitable adventure.

WHEAL KITTY.—The sumptuous have cleared the engine-shaft to bottom: we find the 54 fm. level is driven west, on Wheal Kitty Lode, 30 fms.; the lode is about 2 ft. wide, composed of muriatic, copper, and tin, and must be considered a very kindly lode: there are some deads in the level, which are being cleared by the shaftmen. We are also clearing the levels at the 44 with all possible dispatch; the road to the bottoms is completed. We have commenced stoning Benny's bottoms; the lode is from 6 to 7 ft. wide, composed of muriatic and tin, and is very likely to produce tin in considerable quantities. The lode in the stopes in the back of the 44 is much as it was, and will produce

## COPIAPO MINING ASSOCIATION.—[Received March 9.]

*Tres Puntas, Dec. 30.—COPPER MINES—CHICO.*—In the winze now being sunk below the 40 fathom level we have a lode 2 ft. wide, which continues to yield some very good ore, but not in such quantities as we could wish. We are also raising some superior class ore from the 40 fm. level, now being extended to the east of Harman's shaft, and as these workings are being wrought in a piece of whole ground we still entertain hopes of having a good bunch of ore.

*FLAMENCO—SAN AUGUSTIN.*—Here we are progressing most satisfactorily. In the 25 fm. level, now being extended both to the north and south of No. 3 shaft, we have a very promising lode about 2 ft. wide, and producing a fair quantity of ore. We have also commenced the stoning of the back of this and the 15 fm. levels, and each are yielding very well, and had we now a few more men we could employ them to great advantage.

*SAN CARLOS.*—In this mine we are driving the 15 fathom level to the north shaft, where we have a large lode, producing some good stones of ore, and we are daily expecting an improvement; the stopes in the back of this level, now being wrought, are producing a fair quantity of ore. In this mine, as in the San Augustin, the want of men is severely felt.

*SILVER MINES—AL FIN HALLADA.—Salvadora Lode:* In this part of the mine we continue to raise a large quantity of ore. In No. 3 level the lode is 6 in. wide, very good ore. In the No. 7 level we have had a splendid bunch of ore for some time past, but just now it is not quite so good; the lode, however, is now 1 ft. wide, of good ore. In the No. 8 level we have symptoms of the same bunch, and we are daily expecting the level to become rich and productive. The lode in the three bottom levels—viz., 10, 11, and 12, at present are rather in a disordered state; we have had to pass through this channel of ground in the level above, and beyond it these upper levels have again become productive, and we may expect the same below. The shaft for the present is suspended, not having sufficient air, until we have communicated with the levels above, and this will require some little time longer to be completed.—*Al Fin Hallada lode:* In the 20 fm. level, now being extended north, the lode is 1 ft. wide, and producing a little low quality ore. In the 25 fm. level, now being driven north, we have a most promising lode; it is about 18 in. wide, and producing some very good ore; also from the levels now being extended south we are raising some average quality ore, and could we get a sufficient number of hands we should considerably increase our returns and from here.

*SAN JOSE DEL CARMEN.*—In this mine we have no alteration whatever. The cross-cut is progressing very slow, and in the winze on No. 1 branch we have not broken down the lode. The level now being extended east on the manto is without change.

*MERCEDITAS.*—In the 25 fathom level, now being driven east, we have a most promising lode about 9 in. wide, and if we may judge from the class of metal, we have every expectation of daily getting an "alcance." In the winze now being sunk below this level the lode is 6 in. wide, also of a most promising character—stones from each of these "labores" I sent you a few days since.

*COLORADA.—Salvadora Lode:* In my last I said that this lode was improving, and since then I am happy to say we have had a further improvement, for on breaking down the lode a few days since it produced some very pretty stones of "rose color," with arsenical silver, stones of which I have sent you. This ore is precisely the same class as at the Salvadoras on the coming in of the ore, and I have no doubt of its being the same here. We shall break down the lode again in a few days, when I hope to see a further development of its rich resources. On the old lode we have nothing new worth speaking of.

*SANTA ANA.—In this mine our progress is slow; the lode, however, is not at all unpromising, and I hope before long to have to report on a bunch of ore here.*

*SANTA ROSA—MARGARITA.*—Here we have nothing new, but expect shortly to cut the lode on the other side of the slide, where I hope it may be good.

*JUN. 15.—Most respectfully I beg to hand you my monthly report of the prospects, produce, &c., of the several mines belonging to the company.*

*COPPER MINES—CHICO.*—In the 40 fm. level, now being extended east of Harman's shaft, the lode is 18 in. wide, 9 in. of which is ore of superior quality; in the winze now being sunk below this level we have a lode 1 ft. wide, also producing some good ore, and as I have before observed, this being a piece of whole, or virgin ground, induces us to hope that we may again have a good course of ore, and that from here we may increase our monthly returns, but hitherto our most sanguine hopes have been blasted, and when apparently on the eve of something good the lode has again become small and poor.

*PLATINUM MINES—SAN AGUSTIN.*—Our progress here is of a most satisfactory nature. In the 25 fm. level, now being driven north of No. 5 shaft, the lode is 2 ft. wide, and although not all shippable ore, yet it is producing a fair quantity, and daily we are expecting a further improvement; in the 25 fm. level, now being driven to the south of same shaft, we have a lode 18 in. wide, the whole of which is ore of low quality (say 12 per cent.), and embedded in a beautiful stratum; this we consider a most promising level, and shortly we are expecting a good bunch of ore; in the shaft now being sunk below this level we have a lode 3 ft. wide, the greater part of which is ore of over 22 per cent. At No. 2 shaft we are stoning both in the back and bottom of the 15 fm. level, and from each are raising a good quantity of ore.

*SAN CARLOS.*—In the 15 fm. level, now being driven north of the new shaft, the lode is 2 ft. wide, and producing some good stones of ore; this level, although not so good as we could wish it, still has a most promising appearance, and will no doubt, ere long, improve again; the stopes in the back and bottom of this level are producing very well, and had we a few more hands for this, and also for San Augustin, they might be most advantageously employed.

Product for Dec.—San Augustin, 45 tons; San Carlos, 20 tons; Chico, 10 tons; total, 75 tons.

*SILVER MINES.—AL FIN HALLADA.—Salvadora Lode:* In this part of the mine, I am happy to inform you that our prospects are good. In the No. 3 level the lode is 6 in. wide—the whole of which is ore of about 300 mes. per cajon. No. 4 level is at present poor. In No. 5 level we have a good lode, about 6 in. wide; we are also sinking a winze here, in which we have a lode 12 in. wide of good ore. In the No. 7 level we have a very good course of ore, 1 ft. wide. This has been a most productive level; and from the ore to be seen in the level above promises to continue so for some time to come. In the No. 8 level we have not yet got under the ore ground standing in the bottom of the 7. We have, however, a pretty lode, 18 in. wide; and there can scarcely be a doubt of its becoming shortly very productive. In the No. 10 level the lode is 1 ft. wide, of a most promising character indeed; and daily we are expecting to come in contact with the run of ore ground now being laid open in the upper levels. In the No. 11 level the lode is 9 in. wide, producing ore of about 150 mes. per cajon. The No. 12 and 13 are poor, still being disordered by the slide; this piece of ground we should have passed before now had we sufficient hands. Having, however, only a limited number, we have thought it advisable to employ the greater part in the upper levels.—*Al Fin Hallada lode:* In the 20 fm., now being driven north we have a vein 18 in. wide, and producing some very good ore. In the 25 fathom level, now being extended north, we have also a most promising lode, and producing ore of about 150 mes. per cajon. This is a most important piece of ground, and will, doubtless, produce a large quantity of ore. Hitherto it has been of a low quality; it is, however, improving as we progress in depth; and if we may judge from appearances, shortly will be equal to, if not superior to that from the other lode.

*SAN JOSE DEL CARMEN.*—Here we have no alteration; the ground in the cross-cut being very hard, consequently our progress is slow. In the winze now being sunk on the No. 1 lode, the vein is about 6 in. wide, composed principally of quartz. On the manto now being extended east, we discovered a metallic vein, but without silver.

*MERCEDITAS.*—We still continue to drive the 25 fm. level east, and have a fine looking lode, and we want nothing but a cross-branch (let it be ever so small) to fall to cause it to become rich; in the winze now being sunk below this level the lode also is promising, but without silver.

*COLORADA.—Salvadora Lode:* In breaking down the vein a few days since, I am happy to inform you that it exceeded our most sanguine expectations. The lode is about 6 inches wide, and in this breaking has produced about 8 cajons of ore, from 250 to 300 mes. per cajon, some of which is ore of over 1000 mes.—may, much more I believe. This, I think, you will agree with me in calling an "alcance," and our hopes, in consequence, are very high, and from which we now expect to realise all our anticipations; it also confirms our oft-repeated opinion, that depth only is required to develop the riches of this most interesting and all-important mineral. On the other lode we have no change.

*SANTA ANA.—In this mine we are without alteration, not having broken down the lode, but when last taken down it was not at all unpromising, and it is giving evident signs of improvement.*

*SANTA ROSA—MARGARITA.*—Our progress here is very slow, having but two men employed; consequently we are without alteration.

F. S. Since writing the above I have received information that the winze at Chico is considerably improved; the lode is now 2 ft. wide, of rich ore, and this winze being several varas below the 40, argues well for the lode below, which we are driving on with all dispatch.

*ROYAL SANTIAGO MINES.*—[Received March 9.]

*Cobre, Feb. 2.—I am sorry that I cannot more quickly lay open and prove what is to be the result of the Ermiziano speculation (Pereveranza Mine). In entering upon a new mineral field, where the productive spot has to be discovered, I think you will allow it would not be prudent to confine operations to a single point, when there may be several of equal promise. The trial of different lodes in distant pertenencias at the same time, no doubt requires considerable capital. The transverse section lately sent will show you the average underlie of the lode in Taylor's shaft, which under the slide is about 3 ft. per fm. We have about 15 tons of the grey ore skimpings, the samples assayed from which gave 3%, and which we shall have ready to ship by the vessel following the *San Isaac Lyon Goldsmith*. I think we may make it produce something more. At St. Andrew, we have extended the 110 fm. level 10 ft. in Jan., 8 ft. of which is in the unproductive formation. It contains several veins of gypsum of 4 in. in thickness; the end is quite dry, contrary to what I should expect. There is a striking difference in the two formations; the western one has at present a slaty character. One raised in Jan., 91 tons; precipitate, 4 tons. The operations on the lode producing ore in the past week have been confined to Taylor's shaft, and the back of the 35 east of ditto. In the shaft the lode appears to me of coarser quality on my last visit; the report to-day is more in its favour. It is a fine lode as to size, full of mineral, but unfortunately the principal part is sandstone. After this week we intend to stope east and west from the bottom of the shaft. In the back of the 35 the lode is 4 in. thick; the end is quite dry, contrary to what I should expect. There is a striking difference in the two formations; the western one has at present a slaty character. One raised in Jan., 91 tons; precipitate, 4 tons. 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At North Britain Burna Burra Mine meeting, on Thursday (Sir Fred. G. Fowke, Bart., in the chair), the accounts showed a balance at the banker's of £123. 5s. 7d. It was resolved that, for the better security of the adventurers, and to prevent fraud, and in order strictly to comply with the rules of the Cost-book System, transfers should be required before fresh names of proprietors could be entered in the books of the company. The meeting was of a highly satisfactory nature, and the shareholders seemed much gratified at the accounts received from the mines. There was a considerable quantity of ore at grass, and an abundance awaiting the operations of the miner, its character being of excellent quality, averaging 30 per cent. copper.

At the Exmoor Eliza bi-monthly meeting, on the 1st inst., the accounts showed—Balance against mine at the last meeting, £62. 17s. 10d.; Dec. cost, £462.; January, 59. 10s. 3d.—£304. 5s. 1d.—By cash received on account of calls, 315. 17s. 1d.; leaving a balance in favour of the adventurers of 111. 19s. 1d. A call of 10s. per share was made. A report from Capt. Dunstan was read, and considered very satisfactory. He recommends the 50 fm. level to be extended east and west of the shaft, and that the branch of a caunter lode in the same level should also be driven on south-west, which he states to be very kindly for the production of copper ore, and will form a junction with the caunter lode in about 5 or 6 fms.; this lode, in the 36, is composed principally of gossan, interspersed with malachite, and gives great indications of producing copper ore in depth. He also recommends the sinking of a winze in the bottom of 36, 25 fms. west of engine-shaft, at which point there is a branch of saving work 1 ft. wide, and which he is strongly of opinion will improve in depth.

At Great Bryn Consols special meeting, on Friday, for the purpose of forfeiting the shares not duly paid up, all consideration on this was postponed until next meeting. We purpose giving in detail next week the proceedings, and refer our readers to such account.

At Wheal Squire meeting, on Tuesday, the accounts for three months ending Dec. showed—Balance from last account, £482. 18s. 11d.; costs and merchants' bills, 1196. 10s. 5d.—£123. 9s. 4d.—By cash sold (less dues), 315. 17s. 1d.; sundries, 17. 7s.; division of cost in Nov., 644. 5s. 4d.; leaving balance against adventurers, 891. 19s. 1d. A call of 17s. 2d. per share was made.

Wheal Unity sold a parcel of black tin, which realised 433. 11s.

Lewis Mines will sample 20 tons of black tin on the 16th inst.

The Nantose and Penrhiew United Mines will sample 50 tons of lead ore next week.

Cwm Darren will sample 70 tons of copper ore, and 12 tons of lead ore next week.

At Alfred Consols, it is expected that the dividend about being declared will be nearly double the amount of the last one. The prospects of the mine were never looking so well.

At the United Mines, the water was drained on Tuesday last to the depth of 7 fms., below the 194, and was sinking about 7 ft. a day. The men are expected to be at work in the 208 on Monday. There is an excellent course of ore in the 194, both east and west.

At Wheal Unity, the new lode on the south side has, within the last day or two, yielded some of the largest and best rocks of copper ore yet met with. The claudry part of the lode is now also producing good stones of ore; the lode in this level has all the appearance of passing over large deposits of mineral; and it is the opinion of the captain that it will make one of the most productive lodes in the neighbourhood. There is now nine tribute pitches working; and all the men are working with great spirit.

At Tavy Consols, there is from 15,000/- to 18,000/- worth of ore ground laid open, and every probability of keeping up a monthly sampling instead of bi-monthly as hitherto. This mine bids fair to add another to the dividend list before the end of the present year.

At Wheal Yeoland, a new shoot of tin has been discovered in the shaft, and the lode is stated to be worth upwards of 50/- per fathom.

At Trethevy, the lode in the 60, east of the engine-shaft, is without any important alteration. In this level, west, the lode is more compact, containing capel, spar, and mundic, with occasional good spots of copper ore. In the 50 east the lode contains spar, capel, mundic, peach, and prian, and is, on the whole, more promising.

The shareholders in Tees Side Mine will read with pleasure the report this week. The prospects at the shaft, where a steam-engine is in course of erection, are exceedingly promising, in addition to which this company seem to have had the good fortune to win a valuable mine at Metal Band.

Wheal Seton continues to improve, and bids fair to resume by-and-by her old rate of dividends. The agent reports that the north caunter lode in the 120 west, on the middle part, is worth 10/- per fathom; the north part is also worth 10/- per fathom. In the 110 west the lode is 2½ ft. wide, containing stones of ore, and very promising. In the 100 west the lode is worth 40/- per fathom; in the winze below this level the lode is worth 35/- per fathom. In the 100, east of Tilley's, the lode is worth full 70/- per fathom; in the same level west the lode is worth 30/- per fathom, no south wall. Knebene's lode, in the 120 east, is worth 30/- per fathom. The lode in the 110 east is worth 15/- per fathom. In the 100 east the lode has much improved, and is worth 30/- per fathom, no south wall. In the 110 east, on the south lode, the lode is worth 30/- per fathom. Cock's lode, in the 64, is worth 8/- per fm.

During the week, shares have changed hands in Alfred Consols, Bedford United, Black Craig, Boscastle Downs, Botallack, Bryantl, Carn Brae, Devon Great Consols, Dolcoath, General Mining Company for Ireland, Goanamens, Herodsfoot, Jamaica, Merlins, Mining Company of Ireland, South Tamar, Spearis Consols, Tamar Consols, Trebene, Tresavean, United Mines, West Providence, Wheal Bassett, Wheal Mary Ann, Wheal Tremayne, Wicklow, Algoed Consols, Augusta Consols, Balsnoon Consols, Boringdon Consols, Calstock United, Cradock Moor, Cubert, Cwn Darree, Darren, East Froncog, East Tamar, East Margaret, Egar Lee, Four Darge, Great Crimis, Great Wheal Alfred, Hawkmoor, Keswick, Carthew, Leeds Town, North Tamar, North Wheal Unity, Osred, Pembroke and East Crinnis, Prideline Wood, Prince Albert, Sidney Godolphin, South Cremer, Tavy Consols, Tees Side, Treburret United, Trevelyan, Union (tin), West Bassett, Wheal Augusta, Wheal Carpenter, Wheal Enys, James, Proctor, Wheal Robert, Wheal Russell, Wheal Uny, Wheal Zion, Blackburn, Devan Tin Mines, East Caradon, East Russell, East Wheal Vor, Great Sheba, Mizen Head, Penlynly Court, Pen-y-Gelli, Poldimore, Wheal Phoenix, West Wheal Buller, West Wheal Edward, Wheal Surprise, Wheal Wrey.

In Foreign Mines, transactions have taken place in Alten, Grand Duchy of Baden, Imperial Brazilian, Cobre, Copiapo, General Mining Association, Linares, Mexican and South American, Royal Santiago, St. John del Rey, United Mexican, Jamaica Copper, Port Royal and St. Andrews, Worthing, &c.

At the New Granada meeting, held on the 11th inst., the report of the directors was unanimously adopted and confirmed: the statements of the Juan Criollo and Frostino Mines being of a most satisfactory nature. The directors had dispatched, in charge of Mr. John Hearne Breffit, 500,000 francs. Including the purchase-money, the general expenditure of the company was below 22,300/-, and the company had obtained possession of a mine yielding a profit of about 6000/- per annum. The accounts showed—Capital received on 60,000 shares, £60,000/-; interest on loan, 572. 9s. 9d.; commission on sale of gold, 77. 0s. 5d.—60,579. 10s. 2d.; credit account, Dr. Gonzalez's law charges, broker's commissions, advertising, and printing, 2383. 16s. 5d.; promoters' claims, 6000/-; purchase of Frontino Mine, 16,800/-; mines account, 7623. 10s.; insurance, 1442. 16s. 4d.; expenses in London, 1132. 10s. 6d.; expenses in New Granada, 693. 16s. 10d.; balance of loans at interest, 25,424. 15s.; petty cash, and money at bankers, 174. 5s. 1d., making a total of 60,379. 10s. 2d.

The Alten Mining Association have advised to the 31st Jan. The estimated produce of ore for Dec. was 194 tons, producing 10,235 of fine copper. At Ralp, the several workings continued productive, with the exception of the 30 easterly. At Woolfsls, the country was hard, and their progress slow, but they expected shortly to intersect the lode. At the Old Mine the appearances were encouraging. The stoves in Bergmeister's continue to yield the usual good returns, and in the 10 fm. level from the north-east took some good stones of ore had been broken. At Michell's, the lode in the level was 2 ft. wide, containing good yellow ore, producing about 1½ tons of 7 per cent. ore per fm. The general prospects were encouraging.

At the Linares Lead Mining Company's meeting, on Monday last (A. Wilson, Esq., in the chair), the accounts and balance-sheet for the half-year, ending December 31, were laid on the table, when the chairman said that Mr. John Taylor, jun., having only just returned from Linares, had found it impossible to prepare his report in time for the present meeting. The outstanding unregistered shares were permitted to register until the 23d inst., and the meeting was adjourned to that day for the transaction of the usual business of the half-yearly general meeting, and to receive a report from Mr. John Taylor. The chairman said that it was the intention of the directors to declare a dividend of 10s. per share on the present capital of the company. The usual report is among the Foreign Mining Intelligence.

The Royal Santiago Mining Company have advised from Cobre to the 2d Feb. The average underlie of the lode in Taylor's shaft, under the slide, was about 3 ft. per fm. They had about 15 tons of the grey ore shavings. The samples assayed gave 5%, and would be ready to ship by the next vessel following the Sir Isaac Lyons Goldsmith. At St. Andrew they had extended the 110 fm. level 10 ft., of which was in the unproductive formation. Ore raised in Jan., 91 tons; precipitate, 4 tons. The cross-cuts to and from Thompson's had been extended 7 fms., leaving only 3 fms. that was believed to be.

The Copiapo Mining Association have advised to the 15th Jan. In the Chico Copper Mine, they were raising some superior class ore from the 40, how being extended to the east of Harman's shaft. At San Augustin they were progressing most satisfactorily in the 45 north and south of No. 3 shaft; they had a very promising lode, which they had a large lode producing some good stones of ore; at Al Fin Halladas they continue to raise a large quantity of ore; the 25 was producing about 150 mcs per cajon. At Mercedes they had a promising lode, about 9 in. wide. At Colorado the Salvadora lode had improved since last report, and was producing from 250 to 300 mcs. per cajon. The want of a sufficient number of hands was much felt at the mines. The produce for Dec. was—San Augustin, 45 tons; San Carlos, 39; Chico, 10—75 tons.

The Mariquita Mining Company have, by the *Thames* packet, received despatches, of which the following is an abstract—

MARMATO MINES FOR THE MONTH OF NOVEMBER.

Ore raised, 1228 tons; rough ores, remains, stuff, and remains of remains stamped, 1607 tons; average number of stamp heads at work, 85; daily average per stamp's head, 12½ cwt.; fine gold obtained per ton of ore stamped, 8 dwt. 13 grs.

Obtained from the stamping mills:

In fine gold..... Lbs. 58 6 18 In fine silver..... Lbs. 34 1 3 On tribute and purchased..... Lbs. 22 5 17 Total..... Lbs. 81 0 15 Total..... Lbs. 45 6 19

Cost, £18,055 2 0; returns, £24,020 6 50.

Remittance received per *Thames* packet—Fine gold, 61 lbs. 0 ozs. 15 dwts.; fine silver, 45 lbs. 6 ozs. 10 dwts.

MANTA ANA MINE FOR THE MONTH OF NOVEMBER.

Ore raised, 453 tons; mine produce for amalgamation, 476 tons; rough ores stamped, 362 tons; average number of stamp heads at work, 24½.

Cost, £8962 7½; returns, £8507 4.

The whole of the ore on hand not stamped.

The Liguanea Mining Company of Jamaica have received the following report from Capt. Leon, dated River Head Mine, Feb. 8:—"I am happy to inform you that we have got through the hard ground in the shallow edit, and have cut the soft clay-slate connected with the foot-wall of the lode; it is beautifully mineralised, with veins or fibres deeply stained with green carbonates of copper. No. 2 adit is driven 31 fms. 2 ft. 6 in., ground rather harder than it was last month, but also presents a mineral appearance. No. 3 adit is extended 47 fms. 2 ft., in ground still favourable for driving, and of a very congenial character. No. 4, formerly called deep adit, is driven on the course of the lode 10 fms. 2 ft. 6 in.—this lode still bears a very promising appearance."

The United Mexican Mining Association have advised to the 29th Jan. At the Mine of Rayas the produce fully equalled that of the previous month. At Jesus Maria y Jose the decline in the produce continued throughout the month. At La Trinidad the shaft of Guadaloupe was sunk 76½ varas into the adjoining mine of San Francisco de Paul; the ore had so increased that a fortnight's extraction was sold for \$14,484. The market price of quicksilver remained at \$73 per quintal; the total stock in store and use was 22,149 lbs. 12 ozs. The Songos demand and the settlement of the Zaqueos claims were receiving the attention of the manager.

The Anglo-Californian Gold Mining Company's heavy Cornish machinery has arrived several months in California. When the steam machinery is all up, they calculate it will crush 100 tons a day, which, according to the estimates given in our last would produce a profit, at 1½ oz. of gold to the ton, of 100 per cent. on the capital. The lowest yield any test of their quartz has given is between 6 and 7 oz. of gold to the ton; some trials gave upwards of 60 ozs.

The directors of the Rocky Bar Mining Company have just issued their report for the year 1852. They state that they have been practical miners from the year 1849; that although they have had to encounter the difficulties which have been set other associations, yet their operations are now tending to a successful result; that the leads in Grass Valley will yield from \$100, \$70, and \$50, or even \$30 per ton, they do not believe. The present rate of labour has caused them not to embark in speculations which might have proved disastrous. Their machinery has not hitherto obtained a fair trial, but the production of gold there has shown that it could be done at a profit; and this fully justifies them in prosecuting the work they have taken in hand. The machinery sent out to be erected under the superintendence of Dr. Dehaven had consisted of four water-wheels, nine stampers, and a Chilian mill. Not being able to transport the machinery to Rocky Bar, the commissioners had purchased a large number of claims on Massachusetts Hill, and Grass Valley. Owing to local circumstances and climatic influences, Dr. Dehaven had not been able to make much progress; but the contractors had sunk two shafts of about 50 feet each, and found the vein in both shafts. Mr. Whitney was now the present agent of the company. The board have 134 claims on Massachusetts Hill, and 28 claims on Gold Hill; and there was lying at the mill 14 tons of rock, purchased by Dr. Dehaven, which were taken out of Gold Hill on claims, nearly adjoining those of the company. The expenses of mining were at least one-third less than they were the year previously; and the tenure upon which they held their property was secure, according to the laws of the United States. The stock of the company represented \$1,000,000; the number of shares issued was 9625, representing a capital of \$962,500; remaining in the company's hands 375 shares, representing \$37,500. Up to February 5th, the stock was 97.50%; cash and wood in hands of Mr. Whitney, \$10,363; making a total of \$17,863.

The English and Australian Copper Company have received advices from their manager, dated Adelaide, 15th Nov., by which they are informed that over 70 teamsters had been engaged to work on the Port Wakefield road, consequently showing that labour was becoming more abundant in the colony. The manager writes:—"We have accumulated between 300 and 400 tons of coals at the works, and we anticipate that in the course of next week we shall again be able to light three or four furnaces, and the copper produced will enable us to keep faith with the Burna Company. The Mount Carbon Coal and Iron Company (Virginia, U.S.) having now completed the preliminaries and details requisite to demand the support of the public on a sound and legitimate basis are, we understand, to issue their prospectus early in the ensuing week. Professor Ansted's report will be found most satisfactory and encouraging: he estimates the amount of copper easily attainable to be 55,000 tons per acre. An extensive market is available, and the actual profits on a large scale.

The L'Aigle d'Or Gold Mining Company have (as will be seen in our advertising columns) published a condensed report, by an eminent engineer and inspector, of their auriferous property. The land which was allocated with the gold mine shares has also been subjected to the same scientific opinion. Great care has been taken in the formation of this company, and it is congratulatory to find fortunate results attendant on such creditable discretion and circumspection.

We have been favoured with the sight of a solid lump of gold, in weight 24 ozs., which has just been received from Le Miner Auguta Mine, California, and which is the produce of 4 tons 2 cwt. of quartz rock, and extracted, as stated in the report which accompanied it, under unfavourable circumstances, insomuch as a large portion appears to have been lost from the then incomplete state of the machinery put in motion. It is stated in the company's previous reports that they have now 12,000/- worth of the quartz raised, and at the time of these pieces waiting only the application of new machinery which has arrived at San Francisco, and intended to be erected at the mines. Fair specimens of this valuable quartz rock have been shipped, and are expected daily, and we have seen the certificate relating thereto, which is under the seal of the proper authorities at Mariposa, and it sets forth that they had visited the mines in question, and "selected therefrom a lot of auriferous quartz" which they believed "to be a fair average yield of said mine, and the specimens were selected prominently, and without regard to any knowledge on their parts as to the character of quartz likely to produce the largest results from working." And the certificate further states that "these specimens were boxed and sealed up" in their presence "with the seals of the county placed over each screw in red wax." Thus, it is quite evident the necessary precautions have been observed in transporting this quartz in a genuine state to this country. Such a course is highly commendable, and doubtless will be satisfactory to the shareholders.

The gold mining shares this week have shown a tendency to recover from their late depression. Business has slightly increased in extent, more especially on Thursday and yesterday. The market closed last night with a very firm appearance. The more favourable accounts from Australia, and further arrivals of gold dust, have materially tended to strengthen the market. The chief enquiries have been for Colonial Gold, Nouveau Monde, Anglo-Californian, Agua Fria, Great Nugget Vein, Port Philip, British Australian, and Anglo-Australian. In the early part of the week Peel River-shares were in demand, but they have not been in so much favour the last few days. Yesterday was the settling day of the Adelaide Land and Gold Mining Company, but the shares are not to be officially marked. The gold arrived during the present week has been, by the Oriental, 7119 ozs., of the value of 28,500/-; of this 1942 ozs. are on account of the Great Nugget Vein Company, and 981 ozs. for the Colonial Gold. The Panama, from Hobart Town, about 30,000 ozs., and the Frances Henty, from Melbourne, 65,166 ozs. The Ripon has likewise brought in 80,000/- worth of Australian gold, the Niagaras 50,000/-, in specie from New York, and the Orinoco 300,000/-, 45,000/- of which is on account of the Mexican dividends: 2000 ozs. of gold dust have likewise been received from the west coast of Africa on freight. The report of the Waller Gold Mining Company has been lately published. Though on the whole, shares in the North American mines may be characterised as maintaining their position, but little business is being done in them. The transactions in the Stock Exchange will be found in the usual place. The non-official quotations are—Monar, par to ½ prem.; L'Aigle d'Or, ¼ prem. to ½ prem.; Garnett and Moseley, ½ to ¼ prem.; Australian Mutual, ½ to ¼ prem.; Australian Consols, 1-16 divs. to 1-16 prem.; Chartered Australian, ½ to ¼ div.; Burn's Creek Gold, ½ to ¼ div.; Peel River, 7 to 7½ prem.; Adelaide, ½ to par; Lewis Hill Range, ½ to ¼ div.; Melbourne Gold, ½ to ¼ div.; Golden Mountain, ½ to ¼ div.; La Peruvienne, ½ par to ¼ div.; New South Wales, ½ prem. to ¼ div.; London and Liverpool Australian Gold and Streaming, ½ to ¼ prem.; Ceylon Land and Mining, ½ to ¼ prem. Peacock's Copper, 1 ½ prem.; Sulphate of Barytes, ½ div. to par; Port Huon and Moreton Bay Coal, par to ½ prem.; Knockastrelane ½ to ¼ prem.; and Lake Superior Copper, ½ to ¼ prem.

In Miscellaneous Shares, there has been greater animation in this market, particularly for the shares of the Australian Land Companies. Van Diemen's Land were dealt at 12½ to 13½, and left off at 7½ to 8 prem., being an improvement of 10s.; Australian Agricultural became much stronger, and closed at 11 to 12½; Crystal Palace shares have been in demand on account of private individuals, at ¾ to 1 prem.; Crystal Palace of France are also ¾ to 1 prem.; Australian Coal Mining Company's shares are steady, at ¾ to 1 prem.; New South Wales Coal, ¾ to 1 prem.; Victoria Dock shares (47 paid), were done at 6½; ditto New, (2½ paid), 4½; General Screw Steam Shipping (13½ paid), 11½; Submarine Telegraph (17 paid), 1½; Euro Canal shares are quoted 1½ to 1½ prem.

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HULL, MARCH 10.—Our correspondents (Messrs. T. W. Flint and Co.) state that mining shares have been tolerably firm since their last report, but transactions have not been numerous. Dolcoath, West Abraham, East Tamar, and Herodsfoot, have been prominently in request, but have not been freely offered. West Providence, Tremayne, and Treloewen, have also met more enquiry. It is not unlikely that the present growing feeling for mining may result in more attention being paid to home adventures. Certainly it can only be on the principle that "distance lends enchantment to the view" that causes people to embark in adventures in America, Brazil, &c., neglecting the near and important mineral properties of Cornwall and Wales, where there is less risk and more chance of profit.

DUBLIN, MARCH 10.—Wicklow Copper, 49½; General Mining Company for Ireland, 5½; Knockastrelane Copper Mine, 1½; Mining Company of Ireland, 18½; ditto for account, 18½ ½; Mizen Head Copper Mine, ¾; Royal Hibernian Mining Company, 1½; South Devon Consols, 1½; Nouveau Monde, 2½.

LEEDS, MARCH 10.—Messrs. Henwood and Molyneux report sales in Wheal Fortune (South Tawton), Wheal Proctor, Wheal James, Fursdon Manor, Langford, Wheal Tonkin, and Alfred Consols. Enquiries for Devon Consols, West Caradon, Wheal Reeth Consols, Phoenix, and Alfreds.

COPIAPO MINING AND COPPER SMELTING COMPANY.—A protest has been addressed to the directors of this company against its proceeding, pending the steps now in progress for the revival of the territorial rights of the heirs of Sir William Alexander, first Earl of Stirling

## NOTICES TO CORRESPONDENTS.

SIR.—I should feel obliged, if any of your readers would inform me about the price of Pattison's Lead Crystallising Apparatus, as I wish to know the cost of fitting it up for a smelting works.—J. G.: *Liskeard, March 8.*

HELSTON MINING DISTRICT.—SIR: It was my intention to have forwarded ere this sketches of a descriptive and historical kind of the mines constituting this district, but business has prevented any attention to the subject since I left London, where I wrote No. 1. The mines are Great Wheal Vor United (already partly described), Great Work Consols, Godolphin, Sidney Godolphin, Leeds and St. Anwyn, Trevella, East Wheal Vor, Trannack United, Perrills United, Wendron Consols, Wheal Level, Trumpet Consols, and many others, "too numerous to mention" just now. I hope to find leisure to pursue the subject next week.—R. SIMONS: *Truro, March 10.*

"A. B." (Liverpool).—We are no cause for alarm in the reported partial exhaustion of the gold-fields at Victoria. When the immense extent of the Australian country is considered, and how comparatively small the portion that has hitherto been explored, as well as the imperfect machinery and rude labour which has been brought to bear on the auriferous deposits, we imagine that it is a subject of congratulation, as far as capital subscribed in England is concerned. It offers a large field for legitimate mining enterprise—machinery will be required, desertion will be checked, and combined action and skill will then have an opportunity of being fairly tested.

Will our Bakewell correspondent oblige us with a report of the workings, or some information respecting St. Blazey Consols?

"Asturianus."—There is a report that a small dividend will be paid this year; the liquidators were Messrs. Moore, Forrestal, Scott, and Loder. They were subsequently forced to resign, and Messrs. Gillan, Amory, and Wilkinson were appointed trustees. Mr. Colquhoun, the chairman, died last week.

"A New Subscriber" (Tunstall).—A full report of the proceedings of the company referred to will be found in the *Mining Journal* of the 13th November. The offices in London are at the place mentioned in our correspondent's note; but, judging from appearances, the concern does not appear to be carried on in a very satisfactory manner.

"A Shareholder" (Birmingham).—The Committee of the Stock Exchange have not rescinded their determination with regard to the Golden Mountain, nor have they, we understand, given any definite reasons why they have adhered to their resolution, "J. F. G." (Brock-street).—Silver has not only been found in the department of Haut Isere, but several eminent French mineralogists have given their opinion that platinum and gold in small quantities has been found not only there but in various districts of the French Alps, not however, we believe, sufficient to pay for its profitable working.

ARUNDEL UNITED COPPER MINES.—A full report of the proceedings of this company will be found in another column. The communication of Mr. W. Williams has been received, and we are happy to find that it confirms the good opinion we had already expressed of the direction of this mine. The best test of the success of the company will be found in their future working: from the report issued to-day there appears every promise.

"T. B." (Piccadilly).—Canada is known to be very rich in copper and lead, and there is every probability, at no distant period, that it will prove one of the productive mineral countries of the other hemisphere.

TREHANE MINE.—"A Shareholder" is anxious for some information respecting the constitution and working of this adventure. He has written to the purser for particulars, but his application remains unanswered—the only reply being a threat of prosecution if the calls were not regularly paid. This course is most unusual, and we trust an explanatory communication will be forwarded, which will place the matter in a different position to that represented by "A Shareholder."

"Verax" is in error: the accounts of Wheal Montague were printed correctly in our last. A call of 2s. per share was made to pay the mine debt.

A. C. H. (Bideford).—The tone adopted by our correspondent in his otherwise valuable communication prevents its insertion, without considerable alteration. The numberless schemes and projects which have been practised since mining has become an enterprise are too well known to need recapitulation; people must judge for themselves, or employ competent and honourable agents to assist them. We do not, however, think that the cause of legitimate mining will be benefitted either by the wholesale depreciation of one party, or the indiscriminate praise of others.

"A Subscriber" (Upton).—We endeavour always, not only with the Trebene Mine but with every other, to acquire as correct information as can possibly be obtained. For that reason, we court the assistance of all who are concerned, in order that the Share List may be rendered as correct as possible.

In reply to Messrs. Adam Pattison and Co.'s enquiry, the patentees of the New Electric Light and Colour Manufactory are Messrs. Watson and Prosser, and their offices are at No. 11, Adam-street, Adelphi, where a letter addressed would, no doubt, have immediate attention. We believe the blue colour alluded to stands alkaline, and is well adapted for the purposes stated; the red is not of a cochineal, but equally brilliant, and more of a scarlet tint than otherwise.

C. W. (Hull).—We have reason to believe that actual transactions in the first mine took place at the higher quotations. We are obliged to our correspondent for his communication, and shall be glad to hear from him again.

"J. F." (Cornhill).—The reason assigned why the prospectus of the company has not been published is that, as according to the recent regulations of the Stock Exchange, no company can come into the House until it is fully registered, the board have determined upon not appearing before the public until they have obtained complete registration.

"W. B." (Helder Bridge).—It is yet too early to offer any decided opinion on the merits of Captain Ericsson's newly-constructed calorifer engine; until after several trials have taken place it would be unjust in any manner to prejudge it. The pressure per inch on the piston has been variously stated at 12, 11, and 10 lbs. An abstruse mathematical calculation, however correct it may be, in our opinion would not tend further to enlighten on the subject, and we should think it premature to publish any communication until we had obtained a practical report from some one who had personally tested the powers of the engine.

On Wednesday, the 23d February, was published, price 2s. 6d.,

## THE MINING GUIDE:

Containing the following particulars respecting each British and Foreign Mining Company:—

Name of mine .....	Captain .....
Produce .....	Committee .....
Where situated .....	Secretary .....
Purser .....	Offices .....

And the NAMES AND ADDRESSES OF MINING AGENTS AND DEALERS IN SHARES.

To which is added,

## A COMPLETE SET OF AMENDED RULES FOR THE MANAGEMENT OF MINES, ON THE COST-BOOK SYSTEM.

The object of the *Mining Guide* is to afford a means of communication between inventors and others with parties connected with the working and management of mines; to introduce manufacturers applicable to mining purposes; acquire information, &c.

\* \* \* It is particularly requested that all communications may be addressed—

TO THE EDITOR,  
*Mining Journal Office,*  
26, FLEET-STREET, LONDON.

Post-office orders made payable to Wm. Salmon Mansell, as acting for the proprietors.

THE MINING JOURNAL  
Railway and Commercial Gazette.

LONDON, MARCH 12, 1853.

We find that some observations made by us in our Journal of last week, in which we made use of the name of the ANGOLO-CALIFORNIAN GOLD MINING COMPANY, have been much misconceived. Different persons have, from merely casually glancing over the article in question, fallen into distinct errors in three different particulars—1st, in supposing that we intended to imply that 12 tons of ore per day was the amount which the company were likely to crush; 2dly, in imagining that we gave 1½ oz. of gold to the ton as the probable average yield of the quartz of this company; and 3rdly, in fancying that we represented 12 per cent. as being the amount of dividend to be expected by the shareholders. Although anything like an attentive perusal of our article must have shown every thinking reader that neither of the inferences to which we have referred could properly be deduced from it, still, as misconceptions have arisen, we are bound in justice to the Anglo-Californian Company to revert again to the subject, for the purpose of correcting any false impressions which we unconsciously have occasioned. The article in question was obviously intended to give an illustration of the worst state of things under which any of these companies, when well conducted, was likely to labour; we, therefore, took, not our own, but M. LISON FOUCHEM's (as being the lowest) estimate of the yield of quartz; and we also took the state of the crushing power of the Anglo-Californian Company as it existed at the time the last accounts were written (between two and three months back), and the actual expenses, as an illustration of this (the worst) position that the company could be placed in; and we left it to our readers to infer what would be the position of the company in the best, or average state of circumstances. But we, perhaps, ought to have gone a little further, and have pointed out what that position was.

The heavy Cornish machinery of this company has been several months in California, ready to be erected as soon as the state of the weather should admit of it; doubtless, therefore, if the rains cease, some steps have been already taken towards this work; at any rate, more than a few weeks cannot elapse before this machinery will be up, and then the amount capable of being crushed will be enormously increased. In referring, therefore, to the company crushing 12 tons of ore only, we referred to the state of things some three months back, and by no means meant to infer that such state of things was permanent. As to the 2d point—namely, the yield of 1½ oz. of gold to the ton, that was M. FOUCHEM's estimate of the entire quartz throughout the country. The agents of the Anglo-

Californian Company have found the quartz to yield various amounts from 3 ozs. up to 60 ozs. per ton. Then as to the 3d point—viz., the amount of dividend—we need scarcely point out the fact, that if the yield of gold be 3 ozs. to the ton only, instead of 1½ oz., the profit upon the 12 tons per diem, as mentioned last week, would be 24 per cent. upon the capital; and that if the company can crush 100 tons per day, the profits, upon the same low scale, would be 200 per cent. upon the capital. All that we meant to show by our article of last week was, that in the incomplete state of the crushing works of this company three months ago, and taking the lowest estimate of the yield of gold, and considering the actual expenses, the profits could not be less than 12 per cent. on the capital; which, in ordinary enterprises, would be considered a most successful undertaking.

We have just received a pamphlet entitled "A Plea for Geology and its Professors," from the author, Mr. E. P. H. VAUGHAN. In this he ably delineates that geology is, in a social and political point of view, of almost universal utility and importance. Geology reveals to our notice the wonders written in the chalk cliff, and the history of ages recorded in our coal seams: it shows that the one consists of the aggregated remains of organic creatures which once filled with life the then existing waters, and that the fuel which we now see a shapeless mineral once constituted extensive forests, which waved their dark foliage to the blasts of primeval storms, and which afterwards were overwhelmed by a raging ocean, and ultimately reduced to their present form under the influence of extraordinary heat and pressure. He then cites the case of GALILEO, who, for his championship of truth in astronomy, was consigned to the Inquisition; adding the trite remark, that if astronomers of old were attacked as heretics, geologists in our own times have been charged with being little better than heretics. We shall not here enter into a discussion of the theological doubts which have been raised of the geological formation of the earth in juxtaposition with the Mosaic records; this question we believe to all enquiring minds, not debased by superstition and over-credulity, has long since been satisfactorily settled, and we do not feel ourselves called upon to make any remarks on the controversy which for so long a time has occupied the attention not only of the scientific but likewise the theological world. Those who have argued for the literal interpretation of the Mosaic account, have probably done so from the purest and best motives; but we think, with the author, to a dispassionate observer this opposition to the promulgation of the truth appears to be far more likely to injure the cause of religion than anything which may result from scientific researches. The Dean of Westminster, Dr. BUCKLAND, one of our most eminent geologists, enlightened and liberal in his views, states "As reasonably might we object that the Mosaic history is imperfect because it makes no specific mention of the satellites of Jupiter, or rings of Saturn, or any of those details which, though fit matter for an encyclopaedia of science, are foreign to a volume intended only to be a guide of religious belief and moral conduct." A high and well-merited compliment is paid to Sir CHARLES LYELL, Sir HENRY DE LA BECHE, the late Dr. MANTEL, Professor ANSTED, TENNANT, and OWEN, and Messrs. MILLER, PRACHE, and WATERHOUSE, for the eminent services they have displayed in geology and the kindred sciences attached to it. Each, to arrive at the truth, must assist the other with his researches; and even then the result may not be satisfactory as to the affinities of the natural arrangements of the animal, mineral, and vegetable kingdoms. We cordially concur with Mr. VAUGHAN in his sentiments, and do not think we can more appropriately conclude this article than by quoting his own words: "The field of Nature is, however, sufficiently ample to afford subjects for the enquiries of man till the end of time; and that he may do so with advantage to himself and his fellow-creatures, he should ever bear in mind that the world and its occupations, beautiful and important as they are, form but probationary studies for that existence which will endure throughout eternity."

The Right Hon. HENRY TUFNELL, M.P., delivered a lecture, at the Devonport Mechanics' Institute, on "Education, in connection with the Industry and Commerce of the Country," in the course of which he referred to the Mining School, which some years ago Sir CHARLES LEMON proposed to establish at Truro. It was necessary (Mr. TUFNELL remarked) that every opportunity should be given, not only for general study, but for study in that particular branch to which each man may have been particularly devoted, and herein lay our great deficiency. Attempts, however, had been made to remedy this deficiency, one especially in that neighbourhood, which was so remarkable for its practical success and subsequent failure, that he must beg leave to narrate the circumstances relating to it. He hoped, however, there was no Cornishman in the room, or, if there was, he must entreat him to withhold the manifestation of his warmth for the present, as he intended to speak with some severity of the conduct of the inhabitants of his county. It was now 17 years since Sir CHARLES LEMON proposed the establishment of a mining school at Truro. Such an institution was peculiarly wanted in that county. The population actually engaged in mining was not less than 30,000; and the value of the products was about 1,500,000 per annum. The scheme proposed by Sir CHARLES (who, said Mr. TUFNELL, was now lying on a bed of sickness, from which God grant he might soon be raised) was as wise as it was munificent: of its wisdom he would presently give them ample proof, of its liberality there can be as little doubt: he offered to give a site for the building, 5000 ft. towards the building fund, and an endowment for its maintenance hereafter of 10,000/., or if that should not ultimately prove sufficient, 20,000/.. In order to give the county a local interest in its support, he very properly proposed that it should be partly supported by the very trifling tax of half-a-farthng in the £, on the value of all the ores raised in the county, and which should be limited in its operation to 12 years. For the purpose of proving the wisdom and practicability of such a scheme, Sir CHARLES determined to take upon himself the expense and responsibility of maintaining a school of this description for two years, and, accordingly, 17 boys were collected and instructed on the plan proposed in an experimental institution at Truro. The experiment appeared perfectly to succeed; the two years' trial ended prosperously; and yet, with this proof of the wisdom of the proposed plan before their eyes, and the munificent offer that accompanied it within their grasp, the Cornish miners, to their shame be it spoken, rejected the proposal! But the history of this remarkable transaction did not end there. It fortunately occurred to one of the school inspectors, the Rev. Professor MOSLEY, to enquire what had been the subsequent fate of the 17 boys who had been instructed; had the knowledge they acquired been of any use to them; had it in any way contributed to their success in life? The subsequent history of each of these youths was enquired into, and it was published in Prof. MOSLEY's report last year, by which it appeared that every one of them had obtained permanent and high-paid employment, and many of them arrived at wealth and station! It was impossible (Mr. TUFNELL observed) to reflect on this narrative without feelings of the most poignant regret, and perhaps of indignation. Had the munificent offer of Sir CHARLES LEMON been accepted, from 300 to 400 persons would now have been instructed in the Mining School; and, being spread over the mining districts, would have given the benefits of their superior knowledge in offices of trust and responsibility; and, perhaps, many of the losses from scientific ignorance alluded to, would not have occurred.

Although so many expeditions have been dispatched to the Arctic Regions for scientific purposes, it appears strange that, with the exception of the fisheries, which have been undertaken by private enterprise, no persons have hitherto thought it worthy the investment of capital to explore these northern regions for the mineral wealth they are known to possess in large quantities. About two years since, an enterprising Dane (Mr. LUND) drew the attention of his Government to the fact that at Dino, in Greenland, large bodies of copper, lead, iron, &c., existed, almost cropping out at the surface; and, aided by the assistance of the authorities and some friends, an expedition was fitted out to those remote regions, which, we believe, has been attended with a considerable degree of success. It would appear that, at last, English enterprise has been attracted to that quarter; and a company has been formed with a capital of 200,000/., in 20,000 shares of 10/- each, not only to prosecute the fisheries, which are known to give large profits, but likewise the mineral deposits which have hitherto been discovered there; and from the geological formation of the country, which is identical with that of Greenland, Spitzbergen, and the northern parts of Scandinavia, little doubt exists but that lead and copper will likewise be found. It may be probably urged that, owing to climatic influences, mining operations cannot there be successfully carried out; but all who are acquainted with mining in those regions are

enabled to testify, that after attaining a depth or a length of a few fathoms in the bowels of the earth a mean temperature is to be observed both during the winter and summer months.

During the whole of the year abundance of fish and game is to be obtained, so that the supply of food in these articles may be said to be unlimited. We have purposely forbore to enter into any statistic details as to the profits to be derived from the whale and seal fisheries, this not being within our province. The accounts already received from these parts so eloquently vouch for themselves, that comment on our part is needless. Were mining operations established there, stores, materials, &c., could be easily sent out at a cheap freight by the company's fishing vessels, who could afterwards prosecute their own avocations, and fill up with the produce of the mines, as might be found desirable. The ROYAL ARCTIC COMPANY propose to use the powers of the auxiliary screw to their whaling vessels, and to commence operations at that part of the west side of Davis' Straits known as the Northumberland Inlet, or Hogarth's Sound, discovered by Capt. PENNY, the well-known Arctic navigator, and general superintendent of the company. This is the spot where the whales take refuge, and is known for its mineral wealth. The company intend to apply for a Charter or an Act of Parliament; and from the practical manner in which they have commenced, we have every confidence that, when entrusted with full powers, operations will be so conducted that a remunerative return will be afforded to those who have embarked their capital in this legitimate undertaking.

At the meeting of the BANKING INSTITUTE, on Tuesday (J. G. FRITH, Esq., deputy-chairman of the London and County Bank, in the chair), HENRY STEPHENS, Esq., read a paper on the frauds that the banking and commercial interests are liable to from the chemical decomposition of writing inks, with suggestions as to the best means of prevention. The paper was of a highly interesting character, and various experiments were made, to the satisfaction of the meeting. Mr. STEPHENS drew attention to the frauds to which various important documents were subject by the application of oxalic acid, &c. Government were liable to the same fraud in the case of stamps, where the whole of any writing might be obliterated, and the stamp re-used. The result of the experiments went to show that carbon was the agent that should be employed; it would resist chloride and other acids, and was, in fact, indelible. The value of coloured cheques was dwelt upon, and their universal adoption recommended. An illustration of the power of Prussian blue in reviving old documents was given, and attention drawn to the facility for fraud afforded by its means. The compositions of the various inks now in use were fully explained, and comments thereupon made; all, however, finally resulted in the value of carbon as a composition therein, and its practical adaptability to commercial purposes. After some remarks from the chairman and Mr. GILBERT, of the London and Westminster Bank, in which both gentlemen complimented Mr. STEPHENS for the protection he was endeavouring to afford society in general, a vote of thanks was passed to the chairman, and the meeting terminated.

Some weeks since we drew attention to a company which had been projected for the purpose of forwarding emigration to Australia. We then pointed out the advantages which emigrants would derive by availing themselves of the facilities offered by this association, as well as the judgment which had fixed upon the port of Southampton as the place of embarkation. It is a notorious fact, that hitherto, whether on board vessels sailing under authority of the Government Commissioners, or those stimulated by private enterprise, a great disregard has been shown to human life, and, like pigs in an Irish steamer, the calculation has been made how many people could be stowed in a certain space, so that all the room possible could be made available—considering the labouring classes as mere cattle, thereby emulating the example set them by railroad directors, to render the third-class accommodation as uncomfortable as possible, in order to induce people to avail themselves of better places. This inconvenience though easily combated in a day's journey, is somewhat different when it extends over a four months' voyage; and the consequence has been, that in several of the emigrant ship disease and death have been fearfully rife. The PORT OF SOUTHAMPTON EMIGRATION COMPANY have at once struck at the root of this dreadful evil: the uniform rate of passage by their vessels will be 25/-, including the railway fare from London to Southampton in second-class carriages, and 20 cubic ft. of baggage for each adult; only one class of passengers will be taken, and no distinction whatever will be made in their treatment on board the ships of the company. The berths of married persons will be in a separate division of the ship, as well as those of single male and female passengers. A liberal dietary will be afforded, and a surgeon sail with each vessel. Passengers by this company's ships who require money orders payable in the colonies will be furnished with the same, for any amount not exceeding 20/-, on application at the company's offices in London. Residents in the colonies will thus be enabled to provide for the passage of their relatives or friends in England.

Upon payment of the sum of 25/- to any of the authorised agents of this company in the colonies a passage ticket will be given, available in any of the company's ships; this can be transmitted to England or elsewhere in an ordinary letter, without trouble or risk. On the reverse side of such passage ticket will be printed full and plain directions, so that the most inexperienced person will have no difficulty in joining the ship.

A vessel of 550 tons register, fitted with a screw propeller, is now being constructed for the company. The first vessel will sail in April for Sydney, to be followed by others at intervals for Melbourne and Adelaide, due notice of which will be given. The colonial agents are men of high standing in their several localities. Already Captain H. B. STONEY has sailed for Sydney in the *Senator*, in order to superintend the company's operations in Australia. This shows the earnestness with which the directors have embarked in the enterprise, which, while it offers a remunerative profit to the shareholders, at the same time ameliorates the condition of the emigrant in his passage to the antipodes.

In another column will be found a communication from a correspondent in Madrid, advocating the investment of capital in Spain. The accounts there proposed of the mineral wealth of that country we do not believe can be controverted, and we, therefore, accept the deductions of our correspondent as materially correct. The Punic faith of the Spaniards is already well known; and how far British capital has been available there is seen in the case of the unfortunate Asturian Company, which, after having lavished in the best district of Spain upwards of 200,000/ of British capital, gave no return; and numbers are now holding the valueless shares of that improvident association. We do not wish to allude to the antecedents of chicanery, delusion, and mockery, which characterised their proceedings from first to last, but we would simply enquire has any solution of affairs hitherto been arrived at? Now we have an English proprietor, then an Anglo-Belgian, then a Spanish-Anglian, at last liquidators, trustees, the Duke of RIANZARES, and heaven knows how many more! No dividends are paid, the Government keeps no faith, the shares are unmarketable, as all Spanish stock is, and yet our correspondent would advocate investments in Spanish mines. There can be no doubt of the mineral wealth of the country; but, until there is an alteration in the laws, we should be loath to recommend capitalists to invest money in Spain, while their servants cannot obtain toleration in their religious opinions, or any of those sentiments which a free-born subject of Great Britain naturally expects, and has a right to demand.

ENGINEERING FEAT.—A splendid new 30-in. cylinder engine, finished in the first style of workmanship, has been set to work at Perran Wheal Alfred: she was built by Messrs. Bar-Jones, Vivian, and Co., at Copper House Foundry, and reflects the greatest credit on that establishment. She has a 9-ft. stroke, equal beam, steam case, bright working gear and parallel motion, 1 ton boiler, connection rods, and two sets of pumps complete, with balance and angle bobs. The engine was contracted for on the 1st January last. The engine-house, boiler-house, and stack were built, and the engine got ready and set to work on the 26th February—all being executed and completed in the short space of 43 working days, nearly a fortnight of which the engineers and tradespeople were hindered by frost and snow. The stones for the building had to be carried a mile. Mr. Thomas James, of St. Agnes, is the engineer, and Capt. John Davies of the same parish is the manager of Perran Wheal Alfred—both of whom have on this occasion evinced great skill and energy.

The shareholders in the Dinas Great Copper Mine dined together on Wednesday at Anderton's Hotel, Fleet-street. The favourable nature and prospects of the undertaking (as detailed in a report of the meeting in another column) had considerable influence over the assembly, adding much to the hilarity of the company. During the entertainment, a box of ore (the non-arrival of which had caused disappointment at the meeting) was brought in, to the evident satisfaction of those interested. This immediately became the subject of inspection, and afforded the shareholders much gratification, causing the remaining unallotted shares to be readily taken up by those present. The general feeling appeared to be that the undertaking bore a highly-promising character.

## THE PONT PEAN SILVER-LEAD MINE, RENNES.

We are indebted to a correspondent for the following interesting extract from the *Aurélie Breton*, of the 2d inst., giving an account of the Préfet's visit to this ancient work. As the mine is producing considerable quantities of silver-lead and argentiferous blends, we are glad to find we shall shortly have some further particulars respecting it for publication:—

Abandoned after 1790, in consequence of the instability brought about by the revolution in important industrial undertakings, the argentiferous lead mine of Pont Péan remained filled with water from that period; although, in 1803, some parties had succeeded in half emptying it. After 1830, the Government having granted a public adjudication to M. Cossinier, the latter leased it to an English engineer, Mr. Hunt, who undertook to prove the value of this mine, by exploring the debris of the ancient workings, and by unexceptionable experiment to show how advantageous it would be to commence a working which had intact a great part of the metallic riches of Pont Péan. Mr. Hunt, moreover, proved that the sixe formerly left by the ancient company contained more silver than the lead, and he has recovered upwards of 600,000 francs worth of lead and silver from the ancient debris. Notwithstanding these results, Mr. Hunt did not succeed in opening the interior of the mine until 1831, when a company of English and French shareholders was formed. Encouraged by the quiet existing in the country, and favoured by the Government, happy to witness the re-establishment of industrial affairs, this company, in less than 18 months, has established buildings, and erected a steam-engine of 160-horse power, manufactured by Messrs. R. and W. Hawthorn, of Newcastle-upon-Tyne. Four shafts have been reopened and partly re-timbered. At the present moment the water has been sunk more than 140 ft., and several galleries already re-opened, and upwards of 100 tons of rich ore raised from the same. In short, by Mr. Hunt, as well as the company, more than 200 workpeople of the communes of Bruy and St. Elixion, men, women, and children, have constant employment.

Thursday last, M. Comte, Préfet d'Ille et Vilaine, accepting the invitation of the company, visited the mine of Pont Péan. This talented administrator was able to observe himself, in this little excursion, of all the good the Government had done in securing the exertions of the company. M. Comte went through the works, enquiring into the nature of everything. The workmen, proud and happy to see the chief functionary of the department among them, offered him a bouquet. The Prefet received it with affability; and that his presence might be a cause of rejoicing to these worthy people, he sent them the sum of 100 francs. After this visit, M. Comte accepted a handsome déjeuner offered him by the company at the Hôtel de la Mine, recently opened by M. Rossetzky. During the déjeuner, the company came in to thank the Prefet, who addressed them in the following terms:—

"My friends," said M. Comte, "I could not come here without leaving you a souvenir. I am happy to see that your situation is good, and I hope it will become still better. You owe this situation to the active and intelligent man who has re-established the mine of Pont Péan. You owe it, also, to the tranquillity France now enjoys—that is to say, to the Emperor! Continue, my friends, your good conduct. You will always find me ready to contribute to your welfare, and happy to learn that you fulfil your duties." The workpeople responded by the very seven times repeated "Vive le Préfet!"

Messrs. Louche, receiver-general; Galix, special inspector of the minister of general police; Jany, secretary-general of Ille et Vilaine; Courtois, mayor of St. Elixion; De la Durantais, mayor of Bruy; Colonel Mathieu of the artillery, as well as all the French shareholders, assisted at the déjeuner. Several toasts were proposed by the Prefet of Ille et Vilaine to the emperor; by one of the shareholders to M. Comte; by Messrs. the mayors of Bruy and St. Elixion to M. le Préfet, and to the prosperity of the mine.

M. Comte availed himself of this opportunity to thank these two functionaries for their devoted and intelligent assistance. M. Courtois answered, "Work is easy, when directed so ably as by you."

One of the French shareholders having proposed a toast to the English shareholders absent from this déjeuner, the Prefet very happily remarked, that "the union of English and French shareholders was a fresh proof of the confidence the two nations have in a European peace, and in the entente existing between France and England, which becomes more a reality than ever."

Mr. Hunt, the director, thanked the Prefet for his kind expressions towards himself and country, and stated, that the more the two countries knew each other, the greater would be their friendly and commercial relations. In the evening, a dinner given by the company assembled the foremen and chief workmen of the mine to the number of 20. This second déjeuner closed a day which will leave a happy remembrance in the country. May that one of the shareholders said to M. le Préfet be realised—"that ere long the mine of Pont Péan would employ twice the number of workmen."

## MINING IN CEYLON.

It must appear strange that a country such as Ceylon, abounding in varied mineral resources, should so long have escaped the attention of our ever-active mining capitalists. We may account for it in one of two ways—either a total ignorance of the circumstances of the island, or perhaps some grave political consideration. To the latter we must attach some importance, as we are aware that capital is generally withheld, even if there is a good prospect of its yielding a fair return, when a country is troubled by internal disorder, or the mal-administration of its Government places vexatious obstacles in the way of those who are anxious to employ their money in such undertakings as we are now referring to. This drawback no longer exists in Ceylon. A company has been formed for the purpose of working the minerals in Ceylon. The directory is composed of men of such character and influence that the success of the company is placed beyond doubt. It is only proposed to raise one-half of the capital (200,000*l.*) at the present; and from the remarkable samples we have seen of the copper ores received from Ceylon, referred to in Dr. Ure's report, it is no difficult matter to understand that the directors have exercised a wise discretion in their arrangements.

We are decidedly of opinion that the Ceylon Land and Mining Company will, under judicious management, prove eminently successful. The advantages presented are obvious, and cannot fail to attract a due share of public attention. The influence of such a company as this on the social condition of the Cingalese, we need not stop to particularise; but it may fairly be expected to prove the pioneer in the introduction of European enterprise into the most favoured islands in the eastern hemisphere.

## GOLD IN ENGLAND.

The *Advertiser* reached Liverpool on Saturday night (March 5) with her golden freight from the Poldimore Mine, and the whole of the gold was deposited, on Tuesday, at the works of Morris, Rawlings and Watson, of St. Helens. It is, therefore, superfluous now to dilate further on the question of gold production in this country. Every assay, in small quantities, has shown the existence of the precious metal in the gossan, and the reduction of 50 tons in bulk by the firm in question will settle the point of general yield, as respects, at all events, the gossan deposits on the Poldimore sett.

The annexed is the last report from the agent at the mine, dated the 8th inst.:—

"I have this day inspected the operations at the mine, and find that the shallow adit western side is, from the commencement, 13 fms. 1 ft.; the last 5 fms. we have been going through a run, consequently the lode on which we are now driving is about 2 feet wide, carrying a branch of beautiful gossan about 16 inches wide. The rich description, and occasionally yielding rocks weighing  $\frac{1}{2}$  cwt., very good, indeed, but there is a level gone off north which is not for the present clear, about 9 ft. east from the present end on another part of the lode; and I am of opinion that the ancient mines have another level still further south, on a branch which left the lode a few fathoms east, which was pointed out to you when here. In the course of a week or so more I hope to be able more fully to describe the object of the ancient miners for working in this way."

"The clearing of the deep adit west has gone on favourable. So far being now cleared and secured well with timber 13*fms.* from the entrance, the clearing of this level should undoubtedly be carried on with all possible speed. Seeing that whatever work may be taken up here may be carried through the lobby leading to the Hampstead hole, and beyond it to the western engine-shaft, and thereby prevent its going down into the deeper levels of the mine, and be obliged to be drawn again to surface by the engine, thus enabling the company to carry their operations much deeper up in speculating transactions. The estimates, as published, appear to have been framed with great care and moderation. The price of getting set down is above the average price paid in the forest. The allowance for machinery and incidental expenses is ample. The cost of carriage is that at which the railway company would be willing to contract, and the amount calculated on as the selling price is so low that the error, if any there is, is sure to be on the right side. When coals are now selling at rates varying from 14*s. 6d.* to 17*s. 6d.* per ton, it is hardly possible that a company which calculates on 12*s.* will not find a ready market. Even at this low price, the net profit calculated on a quantity, which can certainly be easily got, will reach 25 per cent. on the capital employed. There are other advantages, which it is scarcely necessary to notice, arising from the great thickness of the seam, which renders the working very easy, the facility for drainage afforded by the dip, and the absence of explosive gases, which renders accidents arising from that cause rare occurrences in the Forest of Dean."

The undertaking appears to be a really *bond fide* one. The owners of the property evince their confidence by taking a great part of the purchase-money in shares. The directors are gentlemen of high commercial standing, with the additional advantage of not being extensively mixed up in speculating transactions. The estimates, as published, appear to have been framed with great care and moderation. The price of getting set down is above the average price paid in the forest. The allowance for machinery and incidental expenses is ample. The cost of carriage is that at which the railway company would be willing to contract, and the amount calculated on as the selling price is so low that the error, if any there is, is sure to be on the right side. When coals are now selling at rates varying from 14*s. 6d.* to 17*s. 6d.* per ton, it is hardly possible that a company which calculates on 12*s.* will not find a ready market. Even at this low price, the net profit calculated on a quantity, which can certainly be easily got, will reach 25 per cent. on the capital employed. There are other advantages, which it is scarcely necessary to notice, arising from the great thickness of the seam, which renders the working very easy, the facility for drainage afforded by the dip, and the absence of explosive gases, which renders accidents arising from that cause rare occurrences in the Forest of Dean."

With the present plenty of capital, seeking for means of profitable employment, we augur the success of companies so respectably formed as the Woodside Company, and offering such evident commercial advantages—advantages which may be secured with a diminution in present prices, and a corresponding benefit to the public.

**VALUABLE PROBLEMS: SEEMINGLY POSSIBLE, BUT AT PRESENT IMPRACTICABLE.**

1. To reduce the chemical elements below 50, rather than to add to their number.

2. To separate the gases of the atmosphere by a cheap and easy process.

3. To effect the same, after a like manner, with the gases of water.

4. To combine atmospheric oxygen and nitrogen, and so produce nitric acid, by some economical method.

5. To effect the same with hydrogen and nitrogen, producing ammonia—a great fertilising element in agriculture.

6. To repeat this, by combining hydrogen and carbon.

7. To dissolve carbon and crystallise it, as in the diamond.

8. To collect and control the electric fluid as an economical decomposing agent in these and many similar operations.

Any near approach to these results obtained, then would follow:—

1. Electric illumination, superseding the present gas.

2. Gas combustion, superseding the present use of coal.

3. Electric power, superseding the present steam-engine.

4. Steam more generally adopted for heating purposes.

5. Oxygen and hydrogen, superseding the use of gunpowder, and artillery rendered a near ally to the very artillery of the heavens.

6. And Lastly. Gases, acids, and chemical compounds, so cheapened, as to extensively improve all arts and manufactures.—*From an unpublished chemical MS.*

In the United States, there are 1205 steam-boats; of these 853 are high pressure and 352 low.

**RAILWAY SAFETY.**—To put an end to the numerous accidents on railways, which are frequently caused by the breaking of the springs of the carriages and engines, the Austrian Minister of Commerce, in order to induce the railway officials to examine strictly the state of the springs, has announced a pecuniary reward every time they point out to the administration a spring which is in a bad state.

## THE IRON TRADE.

[FROM A CORRESPONDENT.]

Estimate of the quantity of pig-iron required to produce the foreign exports of iron and iron goods from the United Kingdom for the year 1852, compiled from the Board of Trade returns:—

Of bar, rod, hoop, sheet, nails, chains, anchors, and all other wrought and cast goods, the exportation was 779,230 tons. If we allow one-third for waste in all stages of the manufacture, these articles would require of pig-iron ..... Tons 1,038,973

Of hardware and cutlery the value exported was 2,052,430*l.*; at 12*s.* per ton, it would weigh 22,436 tons. As it probably takes fully 2 tons of pig to produce a ton of finished goods, this value of hardware would consume of pig-iron ..... 44,672

Of machinery and mill work there was shipped a value of 1,251,365*l.*; at 3*s.* per ton, this would weigh 35,738 tons, and, supposing 1*1/2* ton of metal necessary to make a ton of finished machinery, it would require of pig-iron ..... 53,829

Of tin-plates the exportation amounted to 1,103,317*l.*; at 3*s.* per box, this equals 75,341 boxes, at 1*cwt.* of sheets in each box, it represents 36,777 tons. Taking 30 cwt. of pig-iron as necessary to make a ton of perfect sheets, the quantity of pig-iron consumed in making tin-plates will be ..... 53,165

Of Pig-iron itself, the exportation amounted to ..... 234,915

The consumption of pig-iron required to produce all our exports of iron and iron goods for 1852 therefore amounted to ..... 1,431,557

The total make of pig-iron for the year 1852 is probably ..... 2,700,000

Deduct the consumption by foreign exports ..... 1,431,557

There remains for the home consumption for 1852 ..... 1,268,443

N.B.—No account taken of the large consumption of iron in steam-vessels sold to foreign countries.

In 1851, the foreign consumption of pig-iron was ..... Tons 1,307,000

the home consumption of pig-iron amounted to ..... 1,193,000

The total make of pig-iron was estimated at ..... 2,500,000

The portion of the increase in the make in 1852 (over 1851), absorbed by the home trade, was about 3 per cent.; the portion of the increase absorbed by the foreign trade was about 5 per cent.; the total increase of make in 1852 over 1851 was 8 per cent.

The well-doing of the cotton trade so closely affects the prosperity of the iron trade, that a glance at its position during 1852 may assist in forming an opinion on future prospects.

The returns of the consumption of cotton in the United Kingdom in 1852 show an increase (over 1851) of about 13 per cent., which has been wholly consumed by the home trade, as the official accounts exhibit the remarkable fact, that a less value of cotton goods were exported in 1852 than in 1851; the whole of the increase, which actually amounts to 245,000 bales, must, therefore, have been absorbed by the nation at home. This gives some idea of the prosperous state of the people under free trade. More gold having gone to Australia than had come from it up to the end of 1852, it is difficult to see how gold discoveries have had much to do with any advance in prices in 1852. Furthermore, we find that although the supply of raw cotton to the home trade increased 13 per cent. in 1852, yet the price of the same quality was 17 per cent. higher in December than in January. The supply of pig-iron for our home trade in 1852 only advanced 3 per cent., though the use of iron for shipping, machinery, &c., is rapidly on the increase. This fact is some explanation of the present high price of the manufactured article, and affords a reason why it may be maintained for some time. When a demand is greater than a supply, a high price is a necessary result.

## THE COAL TRADE—RAILWAYS.

The want of railway communication has hitherto prevented the products of the great coal field of the Forest of Dean being brought into the metropolitan and provincial markets. This will no longer be the case, as a branch of the Great Western Railway, running through the mining district, is now being constructed, and the line is to be opened by the expiration of the present year. This will open up the whole line to the mines of the forest, and place them in direct and easy communication with more than a hundred inland and seaport towns. Among the places which will be thus made accessible as markets, in addition to London, are Colnbrook, Uxbridge, Windsor, Slough, Egham, Maidenhead, Great Marlow, High Wycombe, Reading, Basingstoke, Pangbourne, Goring, Newbury, Wallingford, Woodstock, Oxford, Abingdon, Wantage, Farrington, Swindon, Tetbury, Cirencester, Brinscombe, Stroud, Stonehouse, Cheltenham, and Gloucester. All these places will furnish ready markets for produce, as coals are now selling in them at a much higher rate than they could be profitably supplied at from the Forest of Dean.

As an instance of the facility with which produce may be disposed of at some of the neighbouring seaport towns, we may point to Gloucester, where vessels now take in ballast for the purpose of proceeding to Cardiff for cargoes of coal. When the railway is opened, the Dean Forest miners will be able to supply coals at that port at about the same price as is now paid for ballast; and it is very improbable that vessels will then go to Cardiff. Another outlet will be afforded by Southampton, with its large fleets of ocean-steamer—a market which the railway will render available.

We may expect that a great stimulus will be given to the mining industry of the district by these circumstances. From peculiar local advantages, the coal can be raised at so cheap a rate as to allow of it being sold at a considerable decrease upon the present market rates—a consideration which is sufficient to increase the quantity of capital employed there; and if the spots be judiciously selected, obtained on fair terms, and worked economically, there is every prospect of a large return.

During the past week a company has been brought before the public, under the title of "The Woodside Colliery Company, Forest of Dean," which proposes to take advantage of the increased facilities of traffic. A lease for 1000 years has been obtained of a coal field, comprising an area of about 275 acres; the bed of coal averaging at least 4*1/2* feet in thickness—in some places it has proved to be as much as 10 feet. The current testimony of persons for many years engaged in working mines immediately adjacent goes to show, that the nearer the property of the company is approached the better is the quality of the coal obtained. The fact is, however, placed beyond conjecture, as four pits have already been sunk, and the specimens obtained show that the two kinds of coal which will be got are of first-rate quality—the one for parlour purposes, the other for machinery. In other respects the pits are very advantageously situated. They are so high up in the land that the expense of drainage will be comparatively small; and the dip of the strata is so favourable, that it is necessary to sink only 75 yards, a depth far smaller than that of any other pit in the forest.

The undertaking appears to be a really *bond fide* one. The owners of the property evince their confidence by taking a great part of the purchase-money in shares. The directors are gentlemen of high commercial standing, with the additional advantage of not being extensively mixed up in speculating transactions. The estimates, as published, appear to have been framed with great care and moderation. The price of getting set down is above the average price paid in the forest. The allowance for machinery and incidental expenses is ample. The cost of carriage is that at which the railway company would be willing to contract, and the amount calculated on as the selling price is so low that the error, if any there is, is sure to be on the right side. When coals are now selling at rates varying from 14*s. 6d.* to 17*s. 6d.* per ton, it is hardly possible that a company which calculates on 12*s.* will not find a ready market. Even at this low price, the net profit calculated on a quantity, which can certainly be easily got, will reach 25 per cent. on the capital employed. There are other advantages, which it is scarcely necessary to notice, arising from the great thickness of the seam, which renders the working very easy, the facility for drainage afforded by the dip, and the absence of explosive gases, which renders accidents arising from that cause rare occurrences in the Forest of Dean.

With the present plenty of capital, seeking for means of profitable employment, we augur the success of companies so respectably formed as the Woodside Company, and offering such evident commercial advantages—advantages which may be secured with a diminution in present prices, and a corresponding benefit to the public.

**WHEAL ECKLEY.**—This important mine, situated in the parish of St. Teath, Cornwall, is now confidently brought before the notice of the public as one of the surest mediums of investment which this rich and highly metalliferous district presents. Its centre of a circle proved to be of more than ordinary richness, and obtained on one side by the famous Old Treburt, from which such vast wealth was obtained, and on the other by Treburt United Mine, which is likely to be a very productive concern. Such being the locality and precise position of Wheal Eckley, its character, independent of its own peculiarly favourable indications, and rich lodes already opened upon, stamps this promising concern with the character of a more than ordinary security.

The Atlantic and Pacific Junction Company's (Darien Ship Canal) shares will be allotted on the 17th inst.

## THE METAL TRADES OF BIRMINGHAM.

[FROM OUR CORRESPONDENT.]

MARCH 9.—Since my last letter, a change in the right direction has taken place in the metal market. There has not been any material reduction in prices, but there has been a great increase of supply at the quotations of last week, and consequently greater facilities for carrying on the works have been afforded. On Monday the holders of tin let go at 6*s. 3*ds.**, and at that price there has been no scarcity; on the contrary, there has been an abundant supply, from which it is not unreasonably inferred, that with reference to this article speculation has been most injurious at work. Some manufacturers have put their workmen on half time, as none will venture to make stock at present prices. During the week there has also been a considerable quantity of copper brought into the market, and orders are now freely executed at 14*s.* per ton. The merchants and manufacturers, however, hold back, under the impression that a reduction of price must be the inevitable consequence of increased supply, but in this there is reason to fear they will be disappointed at present. The quotations of last week are being firmly maintained, whatever may be the ultimate result. Report states that the smelters have assumed their position, and effected considerable sales at the above price, without the intervention of the dealers. The reason assigned for this favourable change is, that the Russian copper, previously offered for the English market, has been purchased at 10*s.* per ton by the French Government, for the new coinage of that country, and the English dealers have, therefore, been compelled to revert to their original supporters, the manufacturers of the United Kingdom. Small, therefore, as the improvement has been, it augurs yet further reduction, and the prospect is, therefore, so far cheering. Although the manufacturers would be sufferers by a continuance of the recent advances, a yet greater amount of injury was in the distance to the industrious workmen, of whom so many are interested in the trade. It is, however, to be hoped that a wise policy will be exercised by those who are in possession of supplies, and so prevent a reaction, which must tell upon those through whose instrumentality such unnecessary advances may be made. In support of the opinion that no immediate reduction may be anticipated, it is said that at no former period were the stocks of manufactured goods throughout the country so low as at present, and that the demand for some time to come even for the home market, exclusive of the foreign trade, will be sufficient to sustain the present prices of the raw material. The mining operations of the district are still being carried on with great energy, although the orders received during the week have not been so extensive as those of the preceding week. No abatement, however, of prices has taken place, and none will be submitted to by the houses who subscribe to the quarterly quotations. Although not immediately in connection with the metal trade, but as materially affecting the manufacturing interest of the town and neighbourhood, may be mentioned an advance which has taken place in the price of paper. Circulars were received this afternoon by

## ECONOMY OF HYDRO-CARBON GAS.

The half-yearly report of the Southport Gas Committee, recently published by the Commissioners, merits our especial attention, in fulfillment of a pledge made to our readers many months ago, to the effect that we should carefully observe the progress of hydro-carbon gas; and, divesting the matter of the mystery in which it has been involved by the congruent influences of prejudice, ignorance, envy, and vested interests, lay before them, from time to time, such a statement of facts as would assist individual conclusions.

Looking over the report, the first matter arresting our attention is the increase in the number of consumers, as compared with the corresponding period last year; the increase amounting to about 30 per cent., and when it is remembered that Southport is a watering-place, the staple commodity of which is pure air in its houses, as well as in its promenades, a more emphatic refutation cannot be imagined of the ill-natured carpers regarding the impurities of the gas, emanating from the anonymous celebrities who rejoice in the convenient titles of "respected correspondents." Consumers, commissioners and visitors concur in eulogizing the purity of the gas; and it appears from the report before us that this perfect purification is effected at *these small works, where time is very high priced, at less than one penny per 1000 feet.* This item is worthy of marked attention, as it meets, in the most satisfactory manner, the strongly-urged objections to hydro-carbon gas, owing to the alleged enormous cost of purification. It is probable that something more than lime will be required in the purification of the parties who have given very positive opinions on this part of the subject.

The gas produced during the last half-year, as measured by station meters, is 2,270,000 cubic feet; the aggregate registration of consumers' meters for the same period is 2,031,400, showing a loss by leakage and condensation of about 10 per cent., not one-third of that sustained by some of the metropolitan companies. This is a very decisive reply to the various extravagant statements which have been put in active circulation relative to the great condensability of hydro-carbon gas, amounting, it was stated, almost to liquefaction—hydrogen, a non-condensable gas at any atmospheric temperature, being its largest constituent; these facts were not necessary to convince intelligent persons of the absurdity of the rumours. Verily, the water gas has had more than one fiery ordeal to pass through.

Although the consumption of gas is large for a town which in 1850 had only 69 consumers, it is after all small in relation to the capital invested, amounting to 4750*l.* This may be accounted for by the great extent of the district over which the gas is distributed, reaching, we believe, upwards of six miles of mains. The report is extremely meagre of detail. The product in cubic feet and cost per ton of Cannel, and many other interesting details, which might have been readily included, are altogether omitted. We noticed sometime ago a statement showing that the product of gas per ton of Boghead Cannel at these works is about 33,000 cubic feet. The Cannel costs the commissioners upwards of 30*s.* per ton, we believe, delivered at the works; and as it has been found at the South Metropolitan Works, according to an announcement in the *Gas Journal*, to produce 60,000 ft. per ton equal to London gas, it would be easy to infer that at the above rate the gas must be very rich and durable, even if we had not positive assurance to this effect. Notwithstanding these untoward circumstances, it is sold for 6*s. 8d.* per 1000 ft.—a much lower price than is charged by larger companies for the worst description of coal-gas.

The following is extracted from the report:—

	RECEIPTS.		
Received on account of gas	£415 14	8	
" rent of meters	16	17	10
" service pipes	5	5	3 <i>s.</i>
Gas still owing	239	17	5
Less owing in August	117	10	1-272 7 4
	£710	5	1 <i>s.</i>
PAYMENTS.			
Wages, 5 <i>s. 10d.</i> ; Cannel, 10 <i>s. 5<i>s.</i> 4<i>d.</i></i> ; charcoal, 37 <i>s. 1<i>s.</i> 3<i>d.</i></i> ; coke, 1 <i>s.</i> 1 <i>s.</i> 1 <i>d.</i>	£196	7	1 <i>s.</i>
Coals, 69 <i>s. 1<i>s.</i> 8<i>d.</i></i> ; lime, 8 <i>s. 1<i>s.</i> 6<i>d.</i></i> ; interest, 15 <i>s. 1<i>s.</i> 9<i>d.</i></i>	235	3	1 <i>s.</i>
Iron work, &c., 12 <i>s. 1<i>s.</i> 9<i>d.</i></i> ; red and white lead, &c., 15 <i>s. 1<i>s.</i> 8<i>d.</i></i>	28	13	9
Superintendent's salary, 12 <i>s. 1<i>s.</i> 10<i>d.</i></i> ; sundries, 10 <i>s. 6<i>s.</i> 1<i>d.</i></i>	22	16	10
Taxes, 1 <i>s. 17<i>s.</i> 8<i>d.</i></i> ; balance applicable to sinking fund, 22 <i>s. 1<i>s.</i> 10<i>d.</i></i>	229	4	6 <i>s.</i>
	£710	5	1 <i>s.</i>

In the item of Cannel no deduction is made, or any credit given for the tar, which has only lately been disposed of. In the item of coals is included fuel for the gasman, and what is required at the commissioners' offices, for which no return is received. The item of interest includes a portion of the interest due for the next half-year, so that this item will be considerably less for the remainder of the year.

The item 12*s. 1*s.* 9*d.** for iron-work, &c., or, in other words, for wear and tear of retorts, we presume is satisfactory, and is, in fact, just in keeping with what we were led to expect from communications we received some months ago, but which we declined to publish, preferring to await the more authentic document from which we make the extract. We are quite at a loss to understand the item red and white lead, &c., 15*s. 1*s.* 8*d.**; if it is really for these materials, it should have been charged to the capital account, as we presume it has been used in laying the new mains; it is difficult to conceive that if such were the case that it would have been charged on the works; it may, therefore, mean brickwork: at all events, it might have been more clearly expressed.

We shall now enquire into the results of the half-year's working, as they would affect a joint-stock company, with the same amount of capital and under the same circumstances, which we have already shown are not very favourable. The gross rental for gas, &c., is 710*s. 1*s.* 1*d.** The gross amount of payments (exclusive of interest) on account of gas-making, repairs, wages, superintendence, and all contingencies whatsoever, is 328*s. 4*s.* 6*d.**

The extract from the report states that no deduction is made for tar. We are assured that the Boghead tar is very valuable, but as it was not sold before the half-year expired it is not included: it will be safe to assume it at 10*s.* The item of coals, it is stated, includes those consumed at the commissioners' offices and at the gas-maker's house. It is to be regretted that these accounts were not kept separate, and that the price per ton of the coals consumed is not given: we shall not over-estimate their value by naming 20*t.* These two sums must be deducted from the above amount of 328*s. 4*s.* 6*d.**, leaving 298*s. 4*s.* 6*d.** as the actual expenditure on the manufacture of the gas. If we deduct this from the receipts we have 412*s. 7*d.** to pay dividends on a capital of 4750*l.* for one-half year, or *seventeen and one-half per cent. per annum.* To be sure, it is the winter half-year, and, therefore, the most favourable; besides, a small percentage would be set aside by a joint-stock company for a depreciation fund; but even after ample allowance is made for those matters, the results are eminently satisfactory, and we rejoice to see that the commissioners have been enabled to set aside 20*t.* in one half-year to a sinking fund, retaining at the same time a suitable sum in hand for current repairs.

**FIFE'S REGISTERED CURVED POINT PEN.**—These are of a different construction to any hitherto patented, and have the greatest resemblance to the old quill pens of any that we have yet seen; they are not liable to corrode, and are free from the objections so generally observed in the majority of steel pens hitherto invented. The up-stroke and down-stroke, by their use, is carefully delineated, no particular ink is required, and from their durability and freedom of action, they afford a desideratum which has long since been required both by the tyro and the man of business. The gold curved point pens, in fact, may be said to be almost everlasting.

**DIAGRAM OF THE HISTORY OF THE LIFE AND EXPLOITS OF THE EMPEROR NAPOLEON, 69, ELEGANT-STREET.**—The small space we can spare for this purpose will only allow us to take a slight sketch of the admirable pictorial effects produced by the pencil of Mr. Marshall, and we shall, therefore, be enabled only to glance at some, and briefly describe the others, but we trust on some future occasion to review these productions at more length. The first scene represents Napoleon surrounded by his generals and staff, which is followed by the memorable Siege of Tonon, the Bridge of Arcola, the expedition to Egypt, the Battle of the Pyramids, the French fleet destroyed at the Nile by Nelson, the passage of the Alps, and the splendid achievement at the Battle of Marengo, which concludes the first part. The second part commences with a beautiful tableau of the coronation of Napoleon and Josephine, followed by a most effective and highly descriptive picture of the Battle of Jena, which gives a most admirable idea of the battle-field; but for a *fac simile* of Nature, perhaps no picture of the series gives so natural an effect as the one that immediately follows the terrible configuration of Moscow: it is a representation of an intense frosty night in those frozen regions, with its brilliant stars glittering, blue sky, and snowy landscape, which almost produces a shudder while viewing this frosty scene, and admirably serves to herald in the disastrous passage of the frozen river of the Berezina, with all its attendant horrors. It is depicted with a truthfulness in effect that we could almost add terrible reality, so powerful is the attention wrought by the scene. The remaining portion of the diagram is highly meritorious and effective, and only wants to be viewed to be fully appreciated.

**HOLLOWAY'S PILLS FOR THE CURE OF LIVER COMPLAINTS AND INDIGESTION.**—Mr. Gamie, chemist, of Yeovil, states, in a letter to Professor Holloway, that a lady residing in that town had been a severe sufferer from liver complaint and indigestion for a very long period; that her medical attendant had informed her that he could do nothing to relieve her, and that she could not survive many months; but not being satisfied with this opinion, she commenced taking Holloway's pills, and this excellent medicine had certainly been the means of saving her life, for in about a month they restored her to perfect health and strength, which she has enjoyed uninterrupted for the last 15 months. Sold by all druggists, and at Professor Holloway's establishment, 244, Strand, London.

## LIST OF PATENTS COMPLETED UNDER THE NEW LAW

W. E. Newton, Chancery-lane.—Machinery for boring or cutting rocks or other hard substances, for the purpose of tunnelling through mountains, or making other excavations;—Means of producing a vacuum for various purposes, such as condensing steam, pumping water, extracting air, other purposes where a vacuum is required;—Washing and amalgamating gold and other metals;—Smelting ores, metals, and other heavy substances, from mud, sand, gravel, stones, and other impurities;—Manufacture of the carbonate of soda;—Construction of axles or axle-boxes.

A. V. Newton, Chancery-lane.—Apparatus for regulating the density of fluids;—Obtaining and applying motive power;—Means of urging the fires and increasing the draft of furnaces, and in arresting the sparks given off from the chimneys of locomotive engines.

J. C. Jeffcoate, Anglesea-street, Cork.—Producing heat for generating steam, and applicable to land or for other purposes for which this invention has not hitherto been used, under the name and title of a heat-producer and steam-generator.

W. V. Morgan, Jewin-crescent, London.—Preparation of oils for the purposes of illumination and lubricating machinery.

J. C. Booth, Philadelphia.—Manufacturing chromate and bichromate of potash from chromic iron or chrome ore.

J. Buchanan, Glasgow.—Treatment of flax and other similar vegetable fibrous substances, and in the machinery employed therewith.

Sir C. Knowles, Bart., Lovell Hill, Berks.—Manufacture of iron.

W. Beales, Louth.—Cement for the resistance of fire.

J. Macintosh, Berners-street.—Composition to be used as paints.

W. G. Elliott, Bilsworth.—Manufacture of bricks, pipes, tiles, and other articles capable of being moulded.

J. Cross, Blue Pits, Rochdale.—Steam-engines.

J. W. Lee, Worcester, and W. Hunt, Stoke Prior.—Utilizing the waste heat of coke furnaces;—Manufacture of iron.

A. F. Cossus, University-street.—Lubricating apparatus.

F. W. Ellington, Drunlond-street, Easton-square.—Making of screws for collapse and other vessels.

T. Elliott, Stockton-on-Tees.—Steam-engines, which are also applicable to pipes.

W. Aspin, Gateshead-upon-Tyne.—Manufacture of Portland and other cements.

J. Coplin, jun., Hackney.—A safeguard railway signal.

J. D. Morris, Stirling, Larches, Camphill, near Birmingham.—Manufacture of per-

H. Browning, Bristol.—Preparing compositions for coating iron and other ships bottoms and other surfaces.

S. Smirke, Berkeley-square.—Apparatus for giving signals on railways.

## DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

E. Thornton, Huddersfield, Yorkshire, improved geyser; C. B. Curtis, Lombard-street, an air-tight screw nozzle for powder canisters; G. Tyler, and Sons, Warwickshire, Tyler's gardener's syringe for conservatories.

**NEW PATENT BRICK MACHINE.**—The drawings of a machine have been shown to us by which, upon a careful examination, there appears every probability that contractors and others will no longer be subjected to the delay and loss consequent upon the non-delivery of bricks, but that those connected with the building trades will now have within their reach the means of an uninterrupted supply, in any quantities. The machine is very strong throughout, all the working parts extremely simple, and in every way fitted to endure the severe discipline of a brick-yard, without either breakage or disengagement—the entire weight is about 7 tons. The patentee, Mr. Charles John Carr, is well known as having for several years acted as Judge of steam machinery at the Royal Agricultural Society's annual exhibitions, and we may, therefore, fairly conclude that, with such ample opportunities of acquiring the knowledge of what would be really required to meet the case, we shall have the pleasure to welcome a machine worthy the name apparently claimed for it by the patentee—

Mr. Symonds has recently registered under the Act for the Protection of Articles of Utility a new apparatus for washing auriferous soils, gravel, or sand, for which he claims a more perfect extraction of the gold and greater economy. It consists of a rectangular box, securely placed on a strong rocking frame. At one end is a hopper, containing two sieves of different-sized meshes, the coarsest being at top—the smaller particles of matrix thus passing through the finer ones into the cradle. Into this hopper a pipe conveys water from a force-pump, fixed at the other end of the box. In the bottom of the channel of the cradle is placed a series of quadrangular recesses or pits, surrounded by shoe-shaped partitions, one end of which enters between the two arms of an opposite one, forming a range somewhat similar to a galvanic battery. The gold and other heavy particles, from their specific gravity, settle in the recesses; while the lighter portions become, by the agitation mechanically mixed with the water, are carried by the zig-zag current circulating through the partitions to the extreme end of the cradle, where the muddy fluid is suffered to emerge from a slime.

Messrs. Hills and Sons, of Cowper-street, City-road, have registered an apparatus for washing auriferous deposits, which is an improved modification of the common cradle, first employed on the discovery of gold in California. It consists of a rectangular box on rockers, having at one end a semicircular compartment of metal in which a number of holes are pierced about  $\frac{1}{2}$  in. diameter. Beneath this are placed two copper wire sieves of different degrees of fineness, the coarsest one being uppermost; and a certain portion of the gold-bearing earth being placed in the first reservoir, water allowed to flow through it, and the machine being subjected to a rocking motion, the auriferous particles are deposited at the bottom of the cradle, nuggets being intercepted by the sieves, and the gravelly, clayey, and sandy matters are carried off at a proper sliver at one end of the apparatus. It also forms a good sea chest during a voyage to the colonies. Messrs. Hills and Sons, in the early part of last week, shipped in the East India Docks a portable timber house, and several of their washing-machines, of powerful construction, for the Australian Cordilleria Gold Companys.

**BERDAN'S QUARTZ CRUSHER.**—This machine, the invention of an American gentleman, has been tried by the Phoenix Gold Mining Company, and according to the statements issued, would appear to be very successful, inasmuch as by the process there have produced 2 cents per lb.: an experiment is cited whereby 50 lbs. of gold-bearing quartz from a mine of which the ore of which had not previously yielded even half a cent per lb., and which specimen, subjected to the test of Mr. Berdan's machine, gave \$1 30 cents of pure gold, thereby increasing the produce three-fold by the new system. The principal feature of Mr. Berdan's machine consists in the fact that it combines crushing, pulverising, washing, and amalgamating in one, and the operation. The pulveriser and amalgamator consists of a cast-iron basin, 5 feet in diameter, and 18 inches deep; by a particular formation the mercury sets into it immediately after it is pulvressed, and the defect is thereby remedied which was heretofore complained of in the amalgamators in use, that they either amalgamate the surface, or else cast gold and quartz-dust through the quicksilver in such large bodies that each distinct particle of gold is not exposed to its action. It is stated that the inventor has obtained, in America, contracts for his machines to the amount of \$52,000. Should this, when practically tested, prove to be as effectual as stated by the inventor, no question can be entertained of its superiority and great utility.

**M'FARLANE'S GOLD-WASHER.**—The following method of separating gold from the debris and other foreign matters associated with it in its native state, has been communicated to us by Mr. Peter M'Farlane, of Conrie, Perthshire. As it appears to be extremely simple, and eminently adapted for many situations in the auriferous districts of Australia and California, if not as a final, at any rate as a preliminary process, we give the following description of it. It will be seen that it common with other plans for a similar purpose, it proceeds upon the well-known principle that when small bodies of different specific gravities are thrown into a fluid, the heavier ones descend the most rapidly, and reach the bottom first. In devising this process, the inventor has applied this principle with great ingenuity, and probably it would be found in practice with great success. The apparatus consists of a tank 14 or 15 ft. deep, and of any convenient width, which is filled with water. By means of small horizontal slits in one pair of opposite sides of the tank, and corresponding grooves in the other, two sheets of iron can be introduced or withdrawn till they rest in the middle on a moveable cross-bar. There is a false bottom exactly fitting the tank, which can be let down by means of ropes till it rests upon the true bottom. The moveable bottom is perforated like a sieve, so that the water flows freely in either direction through it. It has also low upright sides, capable of sliding down the tank. When this false bottom is lowered into the tank, and the mouth of the vessel shut by pushing in the iron sheets, a layer of the debris is spread over the lid or cover, which in that position they form, and then the sheets are instantly withdrawn. The debris then falls immediately into the water, and their particles sink in the order of gravity to the false bottom. This bottom is then raised, taken out of the tank, and covered with the two sheets that had lately formed the tank cover. It is then inverted and lifted off the cover, when the gold will be exposed on the now upper surface of the debris.—*Met. and Min. Magazine.*

**BOILER INCrustATION.**—Mr. F. Dam, of Brussels, has patented the employment of hydrate of potash or soda for the purpose of preventing incrustations in steam-boilers, and of removing any deposit that may already have formed. The hydrate is used in the state of solution, a saturated solution being preferred, and is introduced into the boiler, or into the water with which the boiler is supplied, in sufficient quantity to precipitate the impurities contained in the water, the proper proportion for this purpose being previously ascertained by testing some of the water with the solution which is to be used.

**APPLICATION OF ZINC TO SHIPBUILDING.**—A zinc sloop, the first vessel of that metal in Europe, has just been built at Nantes; she is of a very elegant build, draws but little water, and is called the *Coupe Léon*, after one of the directors of the Vieille Montagne Company. The builder is M. Guibert, of Nantes, and the command of her has been given to Capt. Jouanno, of Lorentz. Iron is used to a certain extent in the construction of this vessel, and the deck and upper works are of wood.

**IRON WAREHOUSES AND DWELLINGS.**—As regards the weight and measurement of the packages comprising an iron building when made up for shipment, very much naturally depends on the particular system of construction employed; but the following may be considered as approximate data, the erection being packed, ready for going on board ship.

A dwelling house of corrugated iron, 17 feet  $\times$  12 feet, and 8 feet high to the eaves, with wooden foundations, doors, windows, shutters, gutters, and down-pipes, will, in complete shell, about..... 2 t. 0 e.

The same, with the addition of floor, linings, and divisions, about..... 3 t. 10 e.

A dwelling house of corrugated iron, 27 feet  $\times$  22 feet, two stories, eight rooms, complete, with floor, linings, and divisions, about..... 29 t. 0 e.

A warehouse, 60 feet  $\times$  25 feet, a complete shell, of corrugated iron, exclusive of floor, linings, and divisions, about..... 12 t. 0 e.

A warehouse and dwelling of corrugated iron, two stories, with floors throughout, and linings and divisions to the dwelling, about..... 35 t. 0 e.

An idea of the comparative cost of iron and wooden structures may be formed from the fact, that a cottage, 17 feet  $\times$  12 feet, divided into three rooms, without floor or linings, will, in iron, cost about 70*s.*; whilst a house of the same dimensions may be made in wood for 40*s.* It must, however, be remembered, that iron structures afford protection from the assaults of depredators, whereas no such security can be expected from a wooden structure.—*Glasgow Mechanic's Journal.*

In France, the Minister of the Interior has submitted to the Committee d'Hygiène Publique, and the Comité des Arts et Manufactures, the important question of substituting oxide of zinc for white lead in painting, with the view of preventing the maladies caused amongst workmen by the latter. A report of the Director-General of Agriculture and Commerce on the subject was read, and the Minister requested the meeting to examine all matters connected with it, and to make known its opinion to the Government. A committee of nine members was elected by the two committees to prepare the elements of deliberation; and the two committees are to meet again in about 15 days to receive its report.

## THE STEAM-ENGINE, AND STEAM-BOILERS.

Messrs. D. Adamson and L. Cooper, of Newton Wood Iron-works, Cheshire, have patented some improvements in the construction of steam-engines and steam-boilers, also in the method of using and rarefying steam, part of which improvements are applicable to marine, locomotive, and other boilers, and marine architecture in general, as well as in cisterns, tanks, and articles of a like nature. The first improvement specified under this patent consists in constructing steam-boilers with horizontal flues and vertical or diagonal tubes, through which the products of combustion from the furnaces are caused to pass before escaping into the chimney. The principal advantage gained by this arrangement is, that there is no danger of the tubes becoming choked by dust,

## MINING IN NORTH AMERICA.

Among the several associations formed for the purpose of the prosecution of mines in the United States, one of the principal is the American Mining Company, incorporated by the Legislature of the State of Vermont, in Nov., 1849, the principal office of which is in Broadway, New York. By its charter, it has a capital of \$175,000, divided into 10,000 shares, 5000 of which only have been issued, and assessed at \$5 each, and no further call will be made. These shares are in the hands of comparatively few individuals, the directors holding the largest portion, and there are but few sellers even at the high rate they are quoted, being from \$60 to \$70 each. A feature quite unknown in English mining is, that the company have power to establish different branches, each being a distinct or separate interest, divided into 20,000 shares, with a capital of \$100,000. The parent association retains always one-fourth interest in each mine so organized, paying like all the other shareholders, after they have paid up a certain sum per share, \$1 as compensation for presenting the mine to subscribers. The shares of each mine are assessed as the money is wanted, of which due notice is given; there is no individual liability, the forfeiture of the shares only being the penalty of non-payment. According to the statutes of the company, a person may hold stock in any one mine, without being interested in any other of those worked by the main company; all are under one direction, and the knowledge thus acquired is applied for the benefit of all. This plan has the great advantage of economy, combining the knowledge of all parties derived from different sources for the individual benefit of each separate interest. A new mine is always examined by the engineers of the parent company, and when approved of, offered to subscribers. No calls are made until the money in hand is nearly expended: in no case has more than \$25 been called, and this only upon mines paying their own way, and likely to yield dividends. Each different mine can be formed into a separate company, and work under any charter they may get, if the majority of the shareholders in any such mine so decide it.

The American Mining Company are now working successfully the following mines in Cuba—the copper mines of San Augustine and Buena Esperanza, Warwick Copper and Lancaster Lead Mines in Pennsylvania, and on Lake Superior the native copper mines, Norwich, Windsor, and Derby, which last is just opened. They have also, in the same locality, the Sharon and Hudson Mines, and a new mine in North Carolina, all of which are but lately subscribed for, and will be put in operation immediately. The mines best known in the Lake Superior district are the Minnesota and Cliffe: the Norwich and Windsor bid fair to equal any, and in the former, at a great depth below the surface, there is explored a mass of nearly native copper, supposed to weigh over 100 tons. The company do not intend to smelt on the spot, but to sell the ore to smelters.

**THE CHALANCES SILVER MINING COMPANY.**—The property of this company is situated in the department d'Isère, about 25 miles from Grenoble, on the high road from that city to Italy, via Briançon, and contains native silver, nickel, and cobalt ores, in abundance. Their mineralogical and geological character is of a high order, and their celebrity historical, being originally discovered in 1768, by some peasants, and subsequently worked by the French Government, under the direction of Mr. Binelli, a Piedmontese engineer, who, in the first year of his operations, extracted 6000 mares of silver, of the value of £3,400. Letters patent were afterwards granted by Louis XVI. to his brother, Le Comte de Provence (Louis XVIII.), for whom they were successfully worked till the revolution, under the management of Mr. Schreiber, by whom silver of the value of £10,000, was extracted. In one of the levels a block of pure native silver of the value of £4400, was found, which was preserved as a curiosity in the cabinet of the Comte de Provence, until the revolution of 1792. Hitherto the mines have been worked for silver only, and the operations confined to the surface veins. It has been proved, however, that cobalt exists in large quantities, combined with antimony and arsenic. Nickel is also abundant, and assays made on the spot, by Capt. J. R. Pitt, of Perran St. George Mines, in May last, show from 15 to 25 per cent. of nickel and cobalt, whilst as much as from 35 to 40 per cent. of nickel was realised from specimens of Kupfer-Nickel. Assays subsequently made by Messrs. Johnson and Matthey, and Messrs. Longmard and Son, show silver in proportions varying from 3 ozs. 11 dwt. 20 grs. to 2123 ozs. 6 dwt. 7 grs. to the ton, with considerable quantities of nickel and cobalt. The company also hold the concession in perpetuity of the mine of Grand Clos, situated about 20 miles from Allemont, in the department des Hautes-Alpes. An assay made by Messrs. Johnson and Matthey, last month, gives 15 ects. of lead and 11 ozs. of fine silver to the ton, and in some specimens as much as 32 ozs. of silver to the ton were found. Mr. White, a mining inspector, is now organising the works at the mines. The company is divided into 6000 shares of £100 each, and will be worked under the French law of *communauté*; but the direction of the mines will be entrusted to experienced English engineers and miners.

**NORTH HINSTON CONSOLS.**—This mine is situated in the parish of Calstock, Cornwall, embracing within its limits ample space for a full and effectual working of the lodes therein, and is bounded on the east by the South Devon Consols, Devon Great Consols, and the Bedford United Mines; on the west by South Wheal Williams; on the north by Wheal Williams, South Wheal Maria, and Wheal Benny; and on the south by Hinston Down Consols, Hawkmoor, and the productive old Gunnis Lake Mine. The stratum is kilas, or clay slate, of a very congenial character, and being immediately adjoining the Hinston Down granite range, well known for its copper-bearing capabilities, must be considered as highly favourable for the production of large deposits of copper ore. The sett is traversed by Wheal Marquis, Hawkmoor, and some of the Devon Great Consols lodes. Wheal Marquis, as already known, a dividend-paying mine, and with every prospect of success for years to come. Hawkmoor, it is the opinion of practical men, will eventually become profitable, whilst the lodes of the Devon Great Consols require no comment; and looking at the other mines which are its immediate neighbours (Hinston Down Consols, &c.), there can be but one opinion—that this piece of mining ground is well worthy the attention of capitalists who embark in mining speculations. In addition to the lodes before mentioned, there are two cross-courses, presenting in their general features something more than an ordinary appearance; and as it is well known that in the immediate vicinity of cross-courses in this district productive lodes are found, there are reasons for believing similar results will occur here. As yet the operations are of a limited nature; in fact, having only very recently commenced working, it cannot be expected that anything like an important discovery should have taken place. One lode, however, has been partially laid open, and so far as seen, presents a very promising appearance, being composed of gossans, capels, mundie, and spots of ore; and there is no doubt, on a continuance of co-stanning, the remaining lodes will be laid open equally promising in character. There are advantages for an adit level to be brought in to a considerable depth, and as the sett is not more than about three miles from Calstock Quay, the carriage will be comparatively inexpensive. The present co-stanning will be, it is presumed, continued on through the sett, and from this they will be guided, in a great measure, as to the place for an engine-shaft. It is believed this property will become very valuable, and situated as it is in the heart of a great mining district, is well worthy of a full and adequate trial.

Since our last Journal, wherein we remarked upon the appearance of the New South Wales Coal and Inter-Colonial Steam Navigation Company, we have had advices from the colony, via Callao and Panama, to the 10th December, by which we learn two important facts that will materially assist the operations of this and other companies—viz., the abundant supply, and at reasonable rates, of both labour and provisions; and the additional fact, that the yield of gold was not, as had been rumoured, on the decline, but considerably on the increase. Under such circumstances, the colonies cannot fail to advance in prosperity, and the want of efficient steam coast service must be every day more urgent; and we trust, the directors will be as expeditious as possible in dispatching their vessels, which the colonists must be looking forward to with eager anxiety. Not the least among the benefits which can be rendered to the mercantile community of Australia by means of this company will be a regular and constant coal mail service. At present, the postal communication is irregular and precarious—being almost entirely carried out by sailing ships. In a letter from an emigrant, published in the *Liverpool Mercury*, the writer states that it is frequently a week before ships can get across Hobson's Bay to Melbourne after arrival at Port Philip Heads. Here, again, the directors say in their prospects they intend applying their steamers; and, by towing the vessels to their final anchorage off the entrance of the Yarra Yarra, prevent the delay and inconvenience so much complained of. Altogether, the objects of this company are to confer benefits on our Australasian colonies, second only to the carrying out of direct steam communication with the mother country, which it will materially assist, both by supplying coal to the southern depots, and collecting the coast supplies of both passengers and cargo for the larger vessels.

**WEYRAN SLATE AND SLAB QUARRY.**—This association is on the Fenton Range, Port Madoc. From the specimens we have seen, and the estimates of the engineers, we are inclined to believe that a fair investment is offered, if that economy is used which ought to characterise undertakings of this nature. The quality of the slates is of a superior kind, and will command a good price in the market.

**GREAT HEWAS UNITED LTD. MINING COMPANY.**—These mines are situated in the parish of St. Ewe and Mewan, and are only four miles from the place of shipment. The lodes have been proved, and found to be very productive; a cheap transit is afforded for the ores. The grants of the sett are held under the Earl of Mount Edgcumbe and Christopher Hawkins, Esq., at moderate dues. The reports of Captains John Webb, John Jenkins, and Mr. William Ham, all speak favourably of the property, which, from the produce it has already given, prove that if energetically prosecuted it will give a remunerative return to the shareholders.

DIED.—On the 6th inst., George Thomas, Esq., of Winchester House, Broad-street, and Westow-hill, Norwood, aged 45.

**ENGLISH AND AUSTRALIAN COPPER COMPANY.**—Notice is hereby given, that a SPECIAL MEETING of the shareholders in the above Company will be HELD at the London Tavern, on the 16th inst., at Two o'clock, when a statement of the accounts, and the proceedings of the company since the last meeting, will be laid before the proprietors. BENJ. WILKINS, Secy.

17, Gracechurch-street, London, March 3, 1853.

**LONDON AND WESTMINSTER THAMES RAILWAY.**—OFFICES, 15, CANNON STREET.

The shareholders, and applicants for shares, are informed that the STANDING ORDERS have been declared COMPLIED WITH. The bill has been read a first time, and stands for the second reading on Wednesday. The Directors will PROCEED to ALLOT the REMAINING SHARES as soon as the second reading has taken place, and NO FURTHER APPLICATIONS will be RECEIVED after the 12th inst.

March 5, 1853.

T. E. WELLER, Secretary.

**THE INDISPUTABLE LIFE POLICY COMPANY,** 12, LOMBARD STREET; and 24, CONNAUGHT TERRACE, LONDON.

RICHARD MALLINS, Esq., Q.C., M.P. RICHARD SPOONER, Esq., M.P. J. CAMPBELL BENTON, Esq. JAMES FULLER MADON, Esq.

WILLIAM WILDERFORCE, Esq.

DIRECTORS:

B. HENRY FORMAN, Esq.

J. HAMILTON, Esq.

H. AUGUSTUS BEVAN, Esq.

JOHN DANGERFIELD, Esq.

W. WILLIAMS, Esq.

BANKERS.—The London and County Bank.

The POLICIES of this company being INDISPUTABLE (in terms of the Deed of Constitution, duly registered), are TRANSFERABLE SECURITIES—and used as FAMILY PROVISIONS, they relieve the assured from all doubt and anxiety as to the future—their validity not being dependent, as in the case of ordinary policies, upon the import of passed and, perhaps, forgotten circumstances, and office documents.

Agents have been appointed in most of the towns in England and Scotland, from whom, or the manager, all information, forms of proposal, &c., may be obtained.

ALICE ROBERTSON, Manager.

DOVER LOCAL BOARD OF HEALTH.  
[Duty free.] IMPROVEMENT WORKS.

CONTRACTS FOR IRON AND STONEWARE PIPES, AND STEAM-ENGINES.

The Board hereby give notice, that they are prepared to receive TENDERS from parties who may be willing to undertake any of the following CONTRACTS, viz.:—

CONTRACT No. 1.—For the supply of about 1225 tons of CAST-IRON PIPES and PIECES to be used in their works of improvement.

CONTRACT No. 2.—For the supply of about 12 miles of GLAZED STONEWARE PIPES and PIECES, to be used in their works of drainage.

CONTRACT No. 3.—For making and erecting a pair of STEAM-ENGINES (of about 40-horse power each), with boilers, pumps, &c., complete, required for their works of drainage.

CONTRACT No. 4.—For making and erecting a pair of STEAM-ENGINES (of about 15-horse power each), with boilers, pumps, &c., complete, required for their works of drainage.

The contract drawings may be examined at the office of the undersigned, at Dover, on and after the 1st March next; and copies of the specifications, accompanied by forms of tender (price 5s. each), obtained there, or at the offices of Messrs. Hammell and Lister, engineers to the Local Board, 4, Trafalgar-square, London. Tenders must be sent in on or before the 12th day of March, 1853.

By order of the Board,

THOMAS BAKER BASS, Town Clerk.

RUGBY LOCAL BOARD OF HEALTH.  
[Duty free.] IMPROVEMENT WORKS.

CONTRACT FOR STEAM PUMPING-ENGINE.

The Board hereby give notice, that they are prepared to receive TENDERS from parties who may be willing to CONTRACT for the supply of a STEAM PUMPING-ENGINE, of about 10-horse power, requisite for their works of water supply.

Specifications, accompanied by forms of tender (price 5s. each), may be obtained at the office of the undersigned at Rugby; or at the offices of the engineers to the Local Board, 4, Trafalgar-square, London. Tenders must be sent in on or before the 24th day of April next.

By order of the Board,

C. E. WHATISLAW, Clerk to the Local Board.

WOOLWICH LOCAL BOARD OF HEALTH.  
[Duty free.] IMPROVEMENT WORKS.

CONTRACTS FOR CAST-IRON PIPES, AND GLAZED STONEWARE PIPES.

The Board hereby give notice, that they are prepared to receive TENDERS from parties who may be willing to undertake either of the following CONTRACTS, viz.:—

CONTRACT No. 1.—For the supply of about 285 tons of CAST-IRON PIPES and PIECES.

CONTRACT No. 2.—For the supply of about 14½ miles of GLAZED STONEWARE PIPES and PIECES.

The contract drawings may be examined at the office of the Local Board of Health on or after the 1st day of March next; and copies of specification, accompanied by forms of tender (price 5s. each), obtained there, or at the offices of Messrs. Hammell and Lister, engineers to the Local Board, 4, Trafalgar-square, London. Tenders must be sent in on or before the 21st day of March, 1853.

By order of the Board,

EDWARD SARGENT, Clerk to the Local Board.

Dated Town Hall, Woolwich, Feb. 28, 1853.

## ROYAL COLLEGE OF CHEMISTRY, LONDON.

The PRACTICAL COURSE OF INSTRUCTION in this INSTITUTION is under the direction of Dr. A. W. HOPMANN and Assistants.

The SUMMER SESSION will COMMENCE on MONDAY, the 14th of March, and END on SATURDAY, the 30th of July, 1853.

The fee for students working every day during the session, is £15 0 0

Four days in the week 12 0 0

Three days in the week 10 0 0

Two days in the week 8 0 0

One day in the week 5 0 0

Hours of Attendance from Nine to Five. Further particulars may be obtained on application at the College in Oxford-street.

INARES LEAD MINING COMPANY.—Notice is hereby given,

that the HALF-YEARLY GENERAL MEETING of the SHAREHOLDERS, adjourned from the 7th inst., will be held at the London Tavern, Bishopsgate-street, on Wednesday, the 23rd day of March instant, at One o'clock precisely, to receive the accounts and balance-sheets, with the directors and auditors' reports, for the half-year ending the 31st December, 1852.

To elect two directors in the place of Alfred Wilson, Esq., chairman, and William Thorne, Esq., deputy-chairman, who go out by rotation, but who are eligible, and again offer themselves for re-election; also to elect two auditors for the ensuing year.

To confirm the election of John Addis, Esq., as director, in the place of Thomas Field, Esq., resigned.

Immediately after the business of the half-yearly general meeting has been transacted, an extraordinary general meeting will be held at the same place.

To take into consideration the expediency of increasing the capital of the company by the creation of new shares, under the power in that behalf contained in the Deed of Settlement, with a view to the more extensive and economic working of the mines, and the transit of the produce to the shipping port.

Also to consider the propriety of altering and amending the 12th clause of the Deed of Settlement, by providing for the holding the half-yearly general meeting of the shareholders at any time during the months of March and September, instead of limiting such meetings to the first week in those months.

By order of the Board,

G. EATON, Sec.

The transfer books will be closed for the dividend from April 4 to April 11.

DINAS GREAT COPPER MINE.—At the MEETING held this day, at Anderton's Hotel, Fleet-street, London, in pursuance of advertisement, WILLIAM GARNER, Esq., in the chair.

The requisition convening the meeting, and the directors' report having been submitted, it was

Moved by W. Carpenter, Esq., seconded by J. Day, Esq., and carried unanimously.

That the report be received and adopted.

Moved by W. Daynes, Esq., seconded by J. Day, Esq., and carried unanimously.

That 14 days be allowed the present proprietors to take into their consideration the mode of disposing of the remaining shares, whether they should be offered *pro rata* to the present proprietors, or to the public.

Moved by W. Daynes, Esq., seconded by J. Day, Esq., and carried unanimously.

That the thanks of the meeting are due, and are hereby offered to the directors, for their open and straightforward conduct, and their general excellent management.

Moved by E. Winter, Esq., seconded by B. Jones, Esq., and carried unanimously.

That the thanks of the meeting are due, and are hereby tendered to the chairman, William Garner, Esq., for his courtesy and impartiality in the chair.

76, King William-street, March 9.

WILLIAM LELEAN, Sec.

CWMYDYLE ROCK AND GREEN LAKE COPPER MINING COMPANY.—TO BUILDERS, EXCAVATORS, AND OTHERS.—TO LET, at the CWMYDYLE ROCK AND GREEN LAKE COPPER MINES, the foot of Snowdon, near Pen Pass and Llanberis, an EMBANKMENT ACROSS the LLANDEN LAKE, a distance of about 100 yards; also the BUILDING of COTTAGES, to contain 300 miners, and a FLAT-BOTTOMED BOAT, to carry 12 tons. Sections of the embankment, and plans of the cottages, can be seen by applying either to Mr. Palmer, the purser, Glynn Puddin, Llanberis; to Capt. Colliver, at the mine; or to the Company's offices, 9, Skinner's-place, Saxe-lane, London, on or before the 15th day of March, 1853, on which day, at Twelve o'clock, the tenders will be opened at the Victoria Hotel, Llanberis. Cwmydyle Mines, Feb. 28, 1853.

MIZEN HEAD COPPER MINES, COUNTY OF CORK, IRELAND.—The Directors will receive TENDERS for supplying a 36-inch cylinder STEAM-ENGINE; also MACHINERY for CRUSHING and DRESSING purposes.—Specifications and other particulars can be had on application to the secretary, at the Company's offices. Tenders to be sent in on or before the 17th March, The Committee do not bind themselves to the lowest tender.

63, Cornhill, Feb. 24, 1853.

JAMES CHAS. CHATTERTON, Chairman.

W. S. LONG, Secretary.

WHEAL WREY MINE, IN ST. IVE, CORNWALL.

NOTICE.

DEALERS in MINE SHARES, and the public generally, are hereby CAUTIONED in respect of PURCHASING SHARES in the above MINE of Mr. PETER ROSKILLY, the purser, and PETER QUICK ROSKILLY, managing agent of the said mine, or of any person selling, or offering for sale, any shares on their behalf, or under either of the said parties; the said Peter Roskilly and Peter Quick Roskilly having unduly appropriated, and otherwise illegally dealt with and disposed of a great portion of the mine, the property of the undersigned, who have authorised their solicitors, Mr. John Sargent, of Liskeard, and Mr. Robert Bishop, of Fowey, forthwith to take proceedings in the Court of the Vice-Warden of the Stannaries of Cornwall to obtain redress.—Liskeard, March 8, 1853.

CHRIST. RICHARD. PETER HARVE

**WEST CRINNIS COPPER MINE,**  
IN THE PARISH OF ST. AUSTELL, CORNWALL.  
CONDUCTED ON THE COST-BOOK SYSTEM.  
Capital in 2500 parts or shares; deposit, 10s. per share.

## COMMITTEE.

CHARLES HINKS, Esq., Drayton-grove, Brompton—Chairman  
JOHN BARKER, Esq., M.D., Richmond, Surrey  
HENRY PARTRIDGE, Esq., Monck-ton-road, Birmingham.

W. C. MORGAN, Esq., St. Endor, Cornwall.

AUDITORS—Rev. Roland Hill, Southampton; Mr. Benjamin Giles, Birmingham.

RESIDENT AGENT—W. C. Morgan, Esq.

INSPECTING MINE AGENT—Captain John Webb, St. Austell.

BANKERS—Messrs. J. L. Muller and Son, Cherry-street, Birmingham.

PURSER—Mr. Thos. Lewis, shropshire, St. George's Chamber, High-street, Birmingham.

OFFICES.—No. 33, ESSEX STREET, STRAND, LONDON;

ST. GEORGE'S CHAMBERS, HIGH STREET, BIRMINGHAM.

This mine is situated in the productive mineral district of St. Austell, Cornwall, within a short distance of the Great Crinnis, Pembroke and East Crinnis, Charlestown United Par Consols, and Boscombe Mines, all of which either have or are now very productive. The sett extends over upwards of 45 acres, and contains four east and west and three counter lodes. One of the former was explored to a small extent about 20 years since in the eastern part of the sett, where one of the counter lodes intersected it, and was found very productive. During the last few months there has been discovered in the South Crinnis, or Appletree Mine, which immediately adjoins West Crinnis on the south, a rich counter lode 3 feet wide, which runs directly through the West Crinnis sett, intersecting the other lodes. Such intersections form a most satisfactory feature, as in this neighbourhood they have seldom failed in producing large deposits of mineral wherever they have occurred. This mine has an adit level brought into it about 20 fms. deep, and numerous lodes intersecting each other in a highly mineralised stratum of ground, cheap and easy for mining. It is held under a lease for 21 years from Colonel Carlyon, at the moderate dues of 1-20th.

It is proposed to sink a shaft about 20 fathoms below the adit level, and to open the ground extensively on the various lodes. These will, there is every reason to believe, yield an abundance of copper, and by the expenditure of a moderate capital render it a profitable and lasting mining property. An efficient and powerful 50-in. cylinder engine, upon the most approved principle, is in the possession of the company, together with the necessary pumpwork, winches, capsaws, shears, and all other essential materials, and are ready for immediate erection and fixing on the unexplored part of the sett.

The capital requisite to put the works in full operation (including the purchase of the above machinery, &c.) is estimated at about £5120, which it is proposed to raise by the issue of 2500 shares, to be paid for by a deposit, on application, of 10s. per share, and the balance by three equal quarterly instalments.

The major part of the capital being already subscribed for (only about 700 shares now remaining for disposal), operations will be at once commenced. This adventure, therefore, possesses a great and unique advantage, in addition to those already mentioned, inasmuch that the delay usually occurring in obtaining machinery and the necessary appliances for setting a mine in full work will in this instance be entirely obviated.

The management will be in the hands of men of experience, and the subjoined report will, it is hoped, fully justify the proposed outlay of capital.

## REPORT OF CAPTAIN CHARLES THOMAS.

*Dolcoth Mine, Camborne, Feb. 16, 1833.*—I have to-day inspected West Crinnis mining sett. It is situated about two miles and a half east from St. Austell, in one of the richest mining districts in the county of Cornwall. The Great Crinnis, Wheal Regent, Penbrooke and East Crinnis Mines, lying near to it, have produced large quantities of copper ore, clearing great profits to the adventurers. Par Consols, now a rich and profitable mine, lies about three quarters of a mile to the north-east of this sett. The locality is unsuitable for mining purposes. Several lodes pass through the sett, some of which have been partially worked here; the deepest, to 40 fms. below the adit, which is 20 fms. deep, and that for a short distance only. The sett is, therefore, to a great extent unexplored. The recent discovery of a productive counter lode in South Crinnis, which is found to pass through the south-western part of this mine, and underlying north-east, giving the West Crinnis a greater length in depth, adds much to the value of this sett. The 20 fm. level, on the counter, in South Crinnis is driven. I am informed, to within 40 or 50 fms. of this mine. The cost of working the mine will not be very great, as the ground can be worked cheaply and expeditiously. The cost of drawing water will also be comparatively easy. *I consider West Crinnis to be a valuable mining sett, and well worthy of attention and vigorous prosecution, and that the chances of success are great.* I approve of the place chosen by Captain Webb to erect a steam-engine, as the counter above referred to, as well as the Regent and other lodes, can be easily reached and worked from the engine-shaft.

CHARLES THOMAS.

Applications for shares, to be addressed, in the usual form, either to the purser, Mr. Thomas Lewis, shropshire, St. George's Chambers, High-street, Birmingham, or 33, Essex-street, Strand, London; W. C. Morgan, Esq., St. Endor, near Truro, Cornwall; Mr. G. H. Birbeck, shropshire, 45, High-street, Worcester; or any other respectable shropshire.

**WHEAL COCKE COPPER AND SILVER-LEAD MINING COMPANY, ST. ENDER, CORNWALL.**

In 6400 shares.—Deposit 10s. per share.

TO BE CONDUCTED ON THE COST-BOOK SYSTEM.

SECRETARY—Mr. Thomas Addis.

OFFICE,—3, HATTON COURT, THREADNEEDLE STREET.

## PROSPECTUS.

This valuable and extensive Mine is situated in the parish of St. Endor, Cornwall, on the main road to Truro, and in the vicinity of East Wheal Rose, a well known silver-lead mine, and is held under a lease for 21 years, at 1-16th dues; it contains several lodes, which are large, highly mineralised, and are in most congenial strata, and is not far from Crow Hill Silver-lead Mine, recently put to work, in which there is a valuable lode already discovered.

The mine was worked under local management, from 1821 to 1824, with an engine of only 21-inch cylinder, and with very successful results, as illustrated by the subjoined statement; but after that period, the general monetary depression that ensued destroyed for the time public confidence in all, even the most promising commercial adventures, and this mine was then brought to a stand-still, from want of the additional capital required for the purchase of machinery adequate to extend the successful working of it.

A large amount has been expended in driving adit and other levels, and sinking engine and other shafts to the depth of 40 fms. from the surface; during those workings, considerable quantities of copper and lead ore were raised, of a quality to command a high value in the market; the price realised for the copper ore at that time ranging between £5 5s. and £8 12s. 6d. per ton, when the standard was only £112; while the standard at present is above £165 per ton for fine copper.

The following is an account of the ores sold in the year 1824:—

Price per ton.	Amount.	
March 2	54. 0c. 6q.	£7 8s. 6d.
March 6	48. 12. 0	480 19 0
April 10	31. 18. 0	610 0
May 1	33. 6. 0	207 7 0
June 5	48. 16. 2	6 0 6
August 7	79. 15. 2	208 19 1
October 9	72. 0. 0	536 9 11
Lead	1. 17. 2	6 8 6
December 11	52. 12. 0	462 12 0
Total	5 5 0	276 3 0

These returns realised a profit of nearly 50 per cent. on the outlay; it is fair, therefore, to calculate that had the undertaking been fully and efficiently developed, a very large per centage would have continued to be realised. It is confidently expected that the returns will be considerably increased when the mine is worked at a greater depth.

The present company will derive the advantage of the shafts and levels already opened, in a considerable saving, both as regards time and outlay; and so strong was the expectation of the former owners that their operations would be renewed, that they left undisturbed all the pumps, rods, stays, ladders, miners' tools, scows, &c., underground—and they are now there, and the property of the present company.

The ore already discovered, both of copper and lead, may be broken so soon as the water is drained off, which can be accomplished within a very limited period after the erection of a steam-engine.

The lessees, having full confidence in the value of the undertaking, are content to accept 1600 shares, free of calls, to the extent of 30s. per share, and a sum of £6000 to be paid in cash out of the first deposits, in consideration of the lease and the work already done, the lessees engaging to retain the whole of these shares until the deposit on the remaining 5000 shares shall have been paid.

Application for the remaining unappropriated shares may be made to Mr. William Lewis, 3, Hatton-court, Threadneedle-street; Mr. John Davies, Exchange-alley, North Liverpool; Messrs. T. W. Flint and Co., Hull; or Mr. John Milner, Bradford, Yorkshire; where prospectuses, reports, and every information may be obtained.

It is believed that none of the agents who belong to this mine, or inspected it in the last working, are now living, and but few of the miners; but the following reports from those of the best informed, honest, and intelligent miners, will show the true character and prospects of the mine generally.

## REPORTS.

*St. Austell, January 11, 1833.*—Sir: Agreeable to your request, I beg to state what I know about Wheal Cocke Mine, in St. Endor. I worked there about the year 1823 and 1824. I sunk a winze from the 12 to the 22 fm. level, east of the engine-shaft; the lode is 4 ft. wide in that part of the mine. The lode in this wing was very good for copper all through to the 22 fm. level. The ground above this is all worked away on tribute, but there is very little work done below this level, and I believe the ground is all standing at this part. There was a very good lode in the 22 fathoms level west, home to the slide or cross-course, but the lode has never been seen the other side. I was the last man that worked in the 22 fm. level east, and the lode is there about 2½ ft. wide, as fine a lode as a man could pick up, with ground about 60s. per fathom. I call it a first rate speculation.

WILLIAM TRELORE.

*Stephens Mills, January 14, 1833.*—Sir: I worked in Wheal Cocke Mine, St. Endor, about three years. I took an old pitch fist in the back of the 12 fm. level, and we got for our part £16 per min. in five weeks; afterwards I took a pitch in the 22 fm. level, where we had a solid course of copper ore, working big 2½ feet at 2s. in the pound, we worked the backs nearly up to the 12 fm. level, and I do not think there is much ground left above the 22 fathom level. After this I left the mine, but I have heard other miners state that the lode of ore held good at the bottom level home to the slide, which was never cut through.

To Capt. James Richard, St. Austell.

*Nempson Mills, January 14, 1833.*—At the 12 fm. level (Wheal Cocke) a good lode of copper ore, large quantity returned. The level was driven west about 10 fathoms, and cut a slide and drove east 70 or 80 fathoms.

At the 22 fathom level the lode, just as the above level, returned large quantities of copper ore. Driven west about 10 fms., and cut the slide; drove east about 100 fms., and a cross-course, and never drove through it, fearing it would drown—their engine being small.

At the 52 fm. level driven west of the slide, a very strong muriel lode, driven east about 70 or 80 fms. At the 42 fm. level driven west to the slide, east driven about 50 fms., the lode seemed to be improved very much, copper being found in the muriel; the lode about 2½ feet in size, and the agents of the mine considered it to be lacking kindly, the materials being left in the mine intended for a future working.

JEREMIAH NICHOLLS.

\* This lot consisted principally of the refuse of the lode, which will account for the decrease in price.

**THE CEYLON LAND AND MINING COMPANY.**

On the "COST-BOOK PRINCIPLE."—No Deed to be signed.

Capital £200,000, in £1 shares.

No further liability.—10s. per share to be paid on allotment.

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This company is formed for the purchase of land and development of the mineral resources of the Island of Ceylon. The fact that Ceylon abounds with mineral wealth has been now fully ascertained beyond any doubt.

The Island of Ceylon (with a population of about one million and a half) is known to possess a most favourable climate, and has long been famed for its valuable productions. It can be reached within 30 days from this country. The facility thus afforded for the extension of its trade, the increased demand and enhancement of value which will be secured for its varied products, will, without entering upon any detail, at once suggest itself to the most ordinary observer. Its connection with England may be stated as in a state of transition, as there can be no question that the present year will exhibit a large increase. The affairs of the company will be managed by parties who have had considerable experience and are well acquainted with the country and its people.

Lands known to the directors of this company to contain the best minerals, are obtainable by them at a very moderate rate in £e simple, and arrangements have been made for an efficient staff to proceed forthwith to Ceylon to take the necessary steps for the immediate working of the company.

The minerals consist of gold, silver, copper, iron, and plumbago, to a large extent, within a few ft. of the surface. The facilities for working the mines and the convenience of transit, coupled with the fact that labour can be had at a rate cheaper than in any other country, form in themselves elements so highly favourable to the prospects of the company, as to ensure certain and permanent success.

The directors desire to draw attention to the following, taken from copies of extracts of correspondence between her Majesty's Government and parties in Ceylon, vide Blue Book, page 15, printed by order of the House of Commons, 21st July, 1847:—

"Persons best informed entertain little doubt that the vast mineral resources of the country hitherto undeveloped, but which are known to be extensively to abound, will eventually present no inconsiderable feature in the export trade of the country."

Extract taken from reports of Sir J. E. Tennent, late Colonial Secretary of Ceylon:—

"Ceylon is rich in minerals. Metallic products comparatively unnoticed in the interior."

Extract from report by Dr. Ure.

Upon the analytical examination of certain samples of sulphuret of copper and of copper pyrites from Ceylon, placed in my hands by Mr. Galbraith as imported for the Ceylon Land and Mining Company, I find that these specimens are exceedingly rich and vary in composition; some of them, like that marked No. 22 from Ceylon, contain nearly two parts of copper for one of sulphur.

ANDREW URE, M.D., F.R.S., Analytical Chemist.

25, Keppel-street, March 1, 1833.

Extract from the report of Messrs. White and Du Maurier.

We beg to state that the specimens submitted to us by Mr. Galbraith, as imported by the Ceylon Land and Mining Company, is of the sulphuret, and yields 72 per cent.

The minor copper ores contain 26 to 35 per cent. WHITE AND DU MAURIER.

5, Barge-yard, Bakersbury, Feb. 26, 1833.

The directors do not deem it necessary in this advertisement to offer other equally important extracts from reports and other documents in their possession, but they may be inspected on application at the offices of the company.

The originals of the above, as also maps of the Island, with specimens of the ores, can be seen, and prospectuses had, at the Temporary offices of the Company, No. 23, New Broad-street.

FORM OF APPLICATION FOR SHARES.

To the Directors of the Ceylon Land and Mining Company.

GENTLEMEN.—We please to allot me shares in this company, and I undertake to accept the same or any less number, and to pay the deposit thereon.

Reference, Name ..... Your obedient servant,

Occupation ..... Name .....

Address ..... Occupation .....

Date ..... Address .....

NOW IN WORK ON THE "COST-BOOK PRINCIPLE."

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CONSULTING ENGINEER—George Ledwell Taylor, Esq

# RAILWAY AND COMMERCIAL GAZETTE.

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## THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY.

NEW ARRANGEMENTS, AND REDUCED FARES AND FREIGHTS.

DEPARTURES OUTWARDS.

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MALTA AND CONSTANTINOPLE.—On the 20th of every month from Southampton. SPAIN AND PORTUGAL.—For Vigo, Oporto, Lisbon, Cadiz, and Gibraltar, from Southampton, on the 7th, 17th, and 27th of every month.

CALCUTTA AND CHINA.—Vessels of the Company ply occasionally (generally once a month) between Calcutta, Penang, Singapore, Hong Kong, and Shanghai.

N.B.—The rates of passage money and freight on the India and China lines have been considerably reduced, and may be had upon application at the Company's offices, 122, Leadenhall-street, London, and Oriental-place, Southampton.

IRON SHIP BUILDING.—The great impetus given to Iron

Ship Building since the IMPORTANT DISCOVERY of a SUCCESSFUL ANTIQUE AGAINST FOULING IN LONG SEA VOYAGES, has induced the inventors, Messrs. PEACOCK and BUCHAN, of SOUTHAMPTON, to lay before the public a few ADDITIONAL TESTIMONIALS as to its unrivalled success during the last twelve months, feeling it unnecessary to publish all the satisfactory letters and documents received from time to time from highly respectable parties, in the form of an advertisement, but copies of which can be seen on application at the offices of their agents in all the principal ports of the United Kingdom and the Continent; and the inventors beg to call the attention of IRON SHIP BUILDERS, the DIRECTORS OF GREAT STEAM COMPANIES, and SHIPOWNERS in general, to the subject, in order that the prejudice so long existing against iron ships may be ENTIRELY REMOVED.

The return of the Queen of the South, Harbinger, and Lady Jocelyn, from an Indian voyage, PERFECTLY CLEAN, has solved a great problem in the application of iron for the manufacture of ships intended for long sea voyages.—Vide Bourne's *Treatise on the Screw Propeller*, Appendix, pp. xxxiv., xxxv., and xxxvi.

An iron ship receiving two coats of No. 2 COMPOSITION before leaving England, which can be applied within three days, in the manner of ordinary painting, and taking with her a small quantity hermetically sealed in an iron case, for re-touching between wind and water on arrival out, and occasionally whilst coaling, where it may be rubbed off by lighters, &c., will MAKE THE VOYAGE TO INDIA, AUSTRALIA, or CALIFORNIA, WITHOUT THE NECESSITY OF DOCKING IN THE COUNTRY; and this composition not having the LEAST PARTICLE OF COPPER IN IT, no galvanic action, to the prejudice of the iron, can possibly take place.

Messrs. PEACOCK and BUCHAN would also beg to call the attention of shipowners to the value of their No. 1 COMPOSITION, for single bottoms and sheathing, either of COPPER, YELLOW METAL, or ZINC, particularly since the late extraordinary rise in the price of copper.

In applying the No. 1, it is important that the SURFACE SHOULD BE DRY, and that the sheets of copper or yellow metal should be RUBBED DOWN WITH SPIRITS OF TURPENTINE TO REMOVE THE FELICE OF ATMOSPHERIC OXIDATION, and PREVENT THE WASHING OFF OF THE COMPOSITION.

The cost of the composition is about the same as that of red lead, taking the difference of quantities required for coating with one and the other.

The following are amongst other testimonials recently received:—

### IRON SHIPS.

"Messrs. PEACOCK and BUCHAN, Southampton.—Having from time to time, during a period of twelve months, made a series of trials of your composition for preventing oxidation and foulness on the bottoms of iron ships, upon several of the iron ships belonging to this Company, in COMPETITION WITH ALL OTHER KNOWN COMPOSITIONS brought out for this object, I am enabled to state that yours has proved decidedly the best, and the Company have, therefore, adopted it. We were in the habit of docking our Cape steamers every voyage to clean and re-coat, but since using your composition, these ships can well perform two voyages without docking. The state of the bottom of the Queen of the South on her return from an Indian voyage, after the composition had been on upwards of six months without examination, was most satisfactory, and which is proved by the fact of this vessel having run 310 knots during the last 24 hours of her passage home UNDER SAIL ALONE. Wishing you much success in the general application of your useful invention." JOHN FORD, Superintendent."

"General Screw Steam Shipping Company, 2, Royal Exchange-buildings, London, Dec. 28, 1852."

### ON COPPER SHEATHING.

"Messrs. PEACOCK and BUCHAN.—We have made use of your Composition Paint for some time, and find it very serviceable, and well adapted for the purpose required. Yours, faithfully, GEO. and J. INMAN, Yacht Builders."

"Lymington, Nov. 4, 1852."

### ON ZINC SHEATHING.

"Messrs. PEACOCK and BUCHAN, Southampton.—I have much pleasure in adding my testimony to the value of your Paint for Ships' Bottoms. The C. T. Sutton, under my command, was sheathed with Vieille Montagne zinc in June, and immediately painted with one coat of your material, and on my return from Newfoundland last week I find the SHEATHING PERFECTLY CLEAN, AND FREE FROM BARNACLES AND WEED, except in a few spots where the paint had been rubbed off; this more distinctly, I think, shows its value as a preservative against fouling. If we had had two coats, as was suggested, the success would have been more complete. I saw Messrs. Le Boultier's schooner, the Adelina, Capt. Pallot, in Gaspé, before she sailed for the Straits, and her appearance was EVER MORE SATISFACTORY than is that of the C. T. Sutton; she was sheathed and painted in May. I beg to add that my confidence in this material is unbounded."

"I am, Gentlemen, your obedient servant,

"JOHN LE BRUN."

Messrs. PEACOCK and BUCHAN beg further to state, that their compositions are now adopted by the following important Steam Navigation Companies:—

THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY.

THE ROYAL MAIL STEAM PACKET COMPANY.

THE PACIFIC STEAM NAVIGATION COMPANY.

THE GENERAL SCREW STEAM SHIPPING COMPANY.

THE AUSTRIAN LLOYD'S.

THE AUSTRALIAN ROYAL MAIL STEAM COMPANY.

THE ABERDEEN AND GLYDE STEAM COMPANY.

THE AFRICAN STEAM NAVIGATION COMPANY.

THE SPANISH STEAM NAVIGATION COMPANY.

THE NORTH OF EUROPE STEAM NAVIGATION COMPANY.

THE NETHERLAND STEAM-BOAT COMPANY.

And by numerous shipbuilders and owners in the United Kingdom.

In order to ensure a pure, genuine, and UNADULTERATED ARTICLE (evidence having been given to Messrs. Peacock and Buchan of parties mixing other compounds with their composition), the public are requested to apply to the inventors, at their manufactory, Southampton, or to their AUTHORISED AGENT, Mrs. TAYLOR, No. 104, MINORIES, LONDON.

TO RAILWAY CONTRACTORS, BUILDERS, AND MASTER BRICK-MAKERS.

CARR'S PATENT DESIDERATUM BRICK MACHINE.—This

MACHINE has been shown in WORK to many practical men, well acquainted with all the conditions necessary to be fulfilled, to constitute the long-looked-for desideratum in the brick and building trades, and their unanimous verdict is that the object has been attained. The machine is fed with ANY KIND OF CLAY, rough from the bank, and at ONE OPERATION perfect facing BRICKS, solid or hollow, are produced, at the rate of from ONE to THREE THOUSAND PER HOUR, and in so dry a state as to stand six or nine high in back when delivered by the machine. The power required would be from 10 to 15 horses; and the patentee furnishes an engine suited to this particular work. The machine will be too costly for the smaller brick-yards, but to parties requiring moderate, or large quantities, will prove a great advantage. For price and further particulars, please apply by letter, pre-paid, to the patentee and manufacturer, Charles John Carr, Belper, near Derby, where the first machine may be seen in work any day NEXT WEEK, upon a day's notice being given by post. This first machine is sold, so that, after next week, it is uncertain whether it can be shown in work.

ANDREWS' PATENT IMPROVEMENTS IN COKE OVENS.—

J. ANDREWS begs to call the attention of ironmasters and coke merchants to his PATENT IMPROVEMENTS IN COKE OVENS, and his COKE DRAWING APPARATUS, whereby they may be rendered, under all possible circumstances, more durable than those in common use, and may be protected, to a great extent, from the effects of the intense heat to which they are exposed. When in the oven, the apparatus may be applied to the pushing of the coke from the oven, and by this means no iron is required in the oven during the cooking process. The peculiar construction of these improvements renders the oven, with any description of coal, capable of converting 15 cwt. of coal into coke in a given time, and with a given area of oven, more than any other coke oven that is now in operation, by which a saving is effected over an ordinary oven. In many instances full 50 per cent. is saved in the making of the coke alone, a much better yield is the result, and the coke is of better quality. No person ought to be without Andrews' Patent Coke Ovens for the locomotive department. The patent right charged at the rate of 20s. the oven per annum, if paid half-yearly; but to parties paying in advance for the ovens, for the whole unexpired term of the patent, the patentee will allow 150 per cent. on any number of ovens built.—Applications for licenses and other information to be made to the patentee, 17, Fair Oak-terrace, Maindee, Newport, Monmouthshire.

DENTON SAFETY FUSE.—THE GREAT EXHIBITION PRIZE MEDAL WAS AWARDED TO THE MANUFACTURERS OF THE ORIGINAL SAFETY FUSE, BICKFORD, SMITH, and DAVEY, who beg to inform Merchants, Mine Agents, Railway Contractors, and all persons engaged in Blasting Operations, that, for the purpose of protecting the public in the use of a genuine article, the DENTON SAFETY FUSE has now a thread wrought into its centre, which, being patent-right, infallibly distinguishes it from all imitations, and ensures the continuity of the gunpowder.

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1st. Economy in the first cost.—2d. Greater durability, being made of a mixture of metal hard in its own nature, and not mechanically hardened, as ordinary brass tubes are, which renders them liable to split or burst when subjected to the expansion and contraction caused by the heating and cooling of the boiler.—3d. Equality of hardness throughout, the metal being sufficiently tough to bear expanding, when fixing in the boilers, without softening the ends, which is necessary in fixing the brass tubes previously in use, and which causes the softened parts to wear more.—4th. They are less liable to corrode than any mixture of brass which can be manufactured into tubes by the processes previously employed.

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1248 Alt-y-crib (silver-lead), Talybont, Wales	4	2	9	9 7 6	0	5 Jan., 1851.
2000 Anglesea Coal Company	4	43	10	10 0	0	2 Nov., 1852.
1624 Ballochmudden (tin), St. Just	11 1/2	104	11 1/2	11 0 6	0	6 Feb., 1853.
4000 Bedford United (copper), Tavistock	24	124	10 1/2	4 7 0	0	5 Feb., 1853.
5000 Black Craig (lead), Kirkcudbrightshire	5	13	5	0 2 6	0	2 Nov., 1851.
64 Boscombe Down (tin), St. Just	100	126	750 0	—	—	May, 1849.
100 Botallack (tin, copper), St. Just	182 1/2	816	485 10 0	15	0 Feb., 1853.	—
1000 Bryntail, Llandoe, Montgomeryshire	7	6	6 7	0 5 0	0	5 June, 1851.
2000 Callington (lead, copper), Callington	37 12s	3 1/2	1 8 0	0	4 9	Sept. 1847.
1000 Carr Bras (copper, tin), Illogan	15	82 1/2	78	216 0	0	2 9 March, 1853.
123 Camborne (copper), Gwennap, Cornwall	75	60	60	—	—	—
236 Condor (copper, tin), Camborne	29	125	125	28 0	0	9 Feb., 1853.
2310 Cook's Kitchen (copper, tin), Illogan	15 1/2	3 1/2	3 3 1/2	15 0	0	—
125 Cwmyntif (lead), Cardiganshire	69	210	—	—	—	—
3024 Devon Great Consols (copper), Tavistock	1	460	450 00	304 0	0	9 Jan., 1853.
672 Ding-Dong (tin), Gulval	5	6	5 0	55 0	0	—
180 Dolenth (tin, copper), Camborne	257 1/2	100	105 110	65 14 0	0	—
2000 Drake Water (tin, copper), Calstock	7 1/2	8	9 5	0 5 0	0	Jan., 1852.
300 East Darren (lead), Cardiganshire	28	106	110	4 0 0	0	2 Jan., 1853.
128 East Pool (tin, copper), Pool, Illogan	24 1/2	139	233 0	—	—	1843.
94 East-Wheel Croft (copper), Illogan	65	65	849 0	—	—	—
128 East Wheal Rose (silver-lead), Newlyn	50	235	2245 0	10	0 0	March, 1852.
300 Fenton Pottery Coal and Iron	6	7 1/2	1 4 0	0 12 0	0	12 Aug., 1852.
494 Fowey Consols (copper), Twardreath	40	30	—	—	—	—
3715 General Mining Co. for Ireland (cop., lead)	1 1/2	5	5 1/2	0 17 5	0	1 5 Dec., 1852.
2000 Goginan (lead), Cardiganshire, Wales	8	20	22 0	0	7 6	Dec., 1852.
1924 Gornanensis (copper), St. Cleer	12 1/2	14	13 1/2 14	0 7 6	0	—
96 Great Consols (copper), Gwennap	1000	200	353 5 5	—	—	Jan., 1851.
50000 Great Onslow Consols, Carmelford	1 1/2	—	0 2 0	0 2 0	0	June, 1852.
13750 Great Polgoon (tin), St. Ansel	3	45	0 10 0	0 4 Oct., 1852.	—	—
119 Great Work (tin), Germoe	100	168	156 10 0	7 10 0	0	Feb., 1853.
1024 Herdwood (lead), near Liskeard	8 1/2	18	18 20	0 7 6	0	2 Aug., 1852.
1000 Holmehus (lead, copper), Callington	24	21	25 0	—	—	Feb., 1844.
2000 Holmford (copper), near Tiverton	11	7	3 5 0	0 5 0	0	Sept., 1852.
76 Jamaica (lead), Mold, Flintshire	34 13s 6d	—	3 1/2 1/2	224 0	0	—
786 Kirkcudbrightshire (lead), Kirkcudbright	9 1/2	4 1/2	4 1/2	0 15 0	0	10 0 Dec., 1852.
1000 Lewis (tin, copper), St. Erth	17	10	2 0 0	0 10 0	0	Aug., 1851.
160 Levant (copper, tin), St. Just	2 1/2	155	1036 0	2 0 0	0	Feb., 1852.
100 Lisburne (lead), Cardiganshire, Wales	75	1000	745 0	45 0	0	Dec., 1852.
5000 Merlina (lead), Flint	23	5	4 1/2 5	1 6 0	0	4 Feb., 1853.
100 Milvr (lead), Flint	150	175	10 0 0	10 0 0	0	Oct., 1851.
2000 Minico Co. of Ireland (copper, lead, coal)	7	17 1/2	18 1/2 1/2	—	—	—
200 North Pool (copper, tin), Pool	22 1/2	315	263 0	7 10 0	0	Dec., 1852.
140 North Roskear (copper), Camborne	10	180	240 10 0	3 0 0	0	Jan., 1853.
6000 North Wheal Bassett (copper, tin), Illogan	—	11	11 11 1/2	1 6 0	0	5 Nov., 1852.
6400 Par Consols (copper), St. Blazey	1 1/2	20	22 16 0	0 15 0	0	March, 1853.
1100 Ferran St. George (cop., tin), Perranabuloe	21 1/2	40	210 0	0 15 0	0	March, 1853.
200 Phoenix (copper, tin), Linkinhorne	30	750	240 0	10 0	0	Dec., 1852.
1000 Polberro (tin), St. Agnes	15	13	4 3 0	0 1 0	0	Dec., 1852.
500 Providence Mines (tin), Ury Leistant	20	25	19 9 6	0 15 0	0	Feb., 1853.
1945 Rix Hill (tin), Tavistock	2 1/2	3 1/2	0 8 0	0 4 0	0	Jan., 1853.
2200 Rorrington (lead), Seal Beach, Shrewsbury	1	1 1/2	0 10 8	—	—	July, 1852.
236 South Cardian (copper), St. Cleer	2 1/2	235	220 225	267 10 0	2 10 0	Jan., 1853.
2000 South Tamar (silver-lead), Beaferris	1 1/2	73	73 0	9 15 0	0 5 0	Feb., 1853.
236 South Tolwas (copper), Redruth, Cornwall	16	250	250	61 0	0	5 Feb., 1853.
248 South Wheal Frances (copper), Illogan	37 1/2	195	200 0	6 10 0	0	Jan., 1853.
1024 Speare Consols (tin), St. Just, Cornwall	1 1/2	11	10 1/2 1/2	7 11 0	0 10 0	Dec., 1852.
1024 St. Aubyn and Gryle (copper, tin), Breage	3	7	7 7 1/2	0 17 6	0	7 April, 1852.
94 St. Ives Consols (tin), St. Ives	80	125	860 0	5 0	0	Dec., 1852.
1000 Stray Park and Camborne Vein (copper)	16	16	11 10 0	—	—	—
5000 Tamar Consols (silver-lead), Beaferris	4 1/2	74	4 1/2 5 x d	4 11 0	2 0 0	Feb., 1853.
5000 Tancred (copper, tin), Pool, Illogan	7	11	12 12	6 18 6	0 10 6	Feb., 1853.
512 Treahane (silver-lead), Menheniot	2 1/2	22	25	13 12 6	1 0 0	Feb., 1853.
5000 Treahay Consols (copper), Redruth	6	1	1 3 0	0 5 0	0	Oct., 1847.
96 Treaveyan (copper), Gwennap, Cornwall	32 1/2	140	280 250	4880 15 0	—	—
120 Trethellan (copper), Gwennap, Cornwall	5	14	102 10 0	1 10 0	0	Dec., 1852.
120 Trevisker and Barrister (copper), Gwennap	130	90	233 10 0	2 10 0	0	June, 1853.
100 Trumpet Consols (tin), near Helston	95	135	25 0	5 0	0	Dec., 1852.
400 United Mines (copper), Gwennap	40	350	400 410	23 15 0	10	0 Jan., 1853.
1024 Wellington (copper, tin), Perranuthnoe	7 1/2	8	2 2 6	0 5 0	0	March, 1851.
255 West Caradon (copper), Liskeard	20	350	350	206 5 0	0	Feb., 1853.
1024 West Providence (tin), St. Erth	3	57	58 1/2 1/2	15 10 0	2 10 0	Dec., 1852.
256 West Wheal Bassett (copper), Illogan	10 1/2	600	600	379 0	20	0 Feb., 1853.
256 West Wheal Brewer (copper), Gwennap	4	22 1/2	22 25	5 0	0	—
256 West Wheal Buller (copper), Redruth	5	1200	1300	242 10 0	22 10 0	Jan., 1853.
256 West Wheal Clifford (copper), Gwennap	—	130	1 8 2	1 8 2	0	Dec., 1852.
4280 West Wheal Exmouth and Adams United	4 1/2	73	6 0 0	6 7 6	0	Dec., 1852.
100 West Wheal Friendly (tin), St. Agnes	70	10	5 0 0	5 0 0	0	Oct., 1850.
128 West Wheal Friendship (tin), St. Just	120	112 1/2	340 10 0	10 0	0	Jan., 1853.
5000 West Wheal Golden (silver-lead), Perranabuloe	3	4 1/2	1 5 0	0 5 0	0	Sept., 1852.
256 West Wheal Jane (silver-lead), Kew	5	20	2 10 0	1 10 0	0	Feb., 1853.
459 West Wheal Lovell (tin), Wendron	33	48	17 10 0	2 10 0	0	Oct., 1852.
112 West Wheal Margaret (tin), Ury Leistant	79	117	196 0	2 10 0	0	May, 1852.
512 West Wheal Mary Ann (lead), Menheniot	54	45	43 45	23 5 0	1 0 0	Sept., 1852.
80 West Wheal Owles (tin, St. Just), Cornwall	70	200	40 10 0	3 0 0	0	Sept., 1852.
240 West Wheal Reeth (tin), Cornwall	20	54	227 10 0	4 0 0	0	Dec., 1852.
108 West Wheal Seton (tin, copper), Camborne	107	190	29 10 0	5 0 0	0	Jan., 1853.
529 West Wheal Trelawny (silver-lead), Liskeard	87 1/2	62	9 5 0	8 10 0	0	Dec., 1852.
1924 West Wheal Tremayne (tin, copper), Gwennap	9 1/2	27	19 17 6	2 0 0	0	Nov., 1852.
5000 Wicklow (copper), Wicklow	3	50	49 1/2 x d	19 15 0	1 5 0	Feb., 1853.

## FOREIGN MINES.

Shares.	Paid.	Last Price.	Present.
5000 Alten (copper), Norway	6	7 7 1/2	3 10 0
5000 Baden, Grand Duchy of	1 1/2	0 1 0	0 1 0
10000 Brazilian Imperial (gold), Brazil	25	45 1/2	34 17 6
2464 Burra Burra (copper), South Australia	5	45 1/2	—
4000 Colee Copper Company (copper), Cuba	40	17 1/2	5 0 0
10000 Cupiapo Mining Company (copper), Chile	14	7	46 1/2
20000 General Min. Assoc. (iron, coal), Nova Scotia	29	17 1/2	18 1/2
50000 Linares (lead), Pozo Acho, Spain	8	12	14 13 1/2
27000 Maratino (gold), Columbia	2 1/2	1	4 0 0
15000 Marquesas and New Granada	1	1	4 0 0
20000 Mexican and South American (copper), Mexico	9	6 1/2	6 1/2
7000 Royal Santiago (copper), Ordo	12	12	6 1/2
11000 San Dieguito (gold), Brazil	15</		